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Textile World

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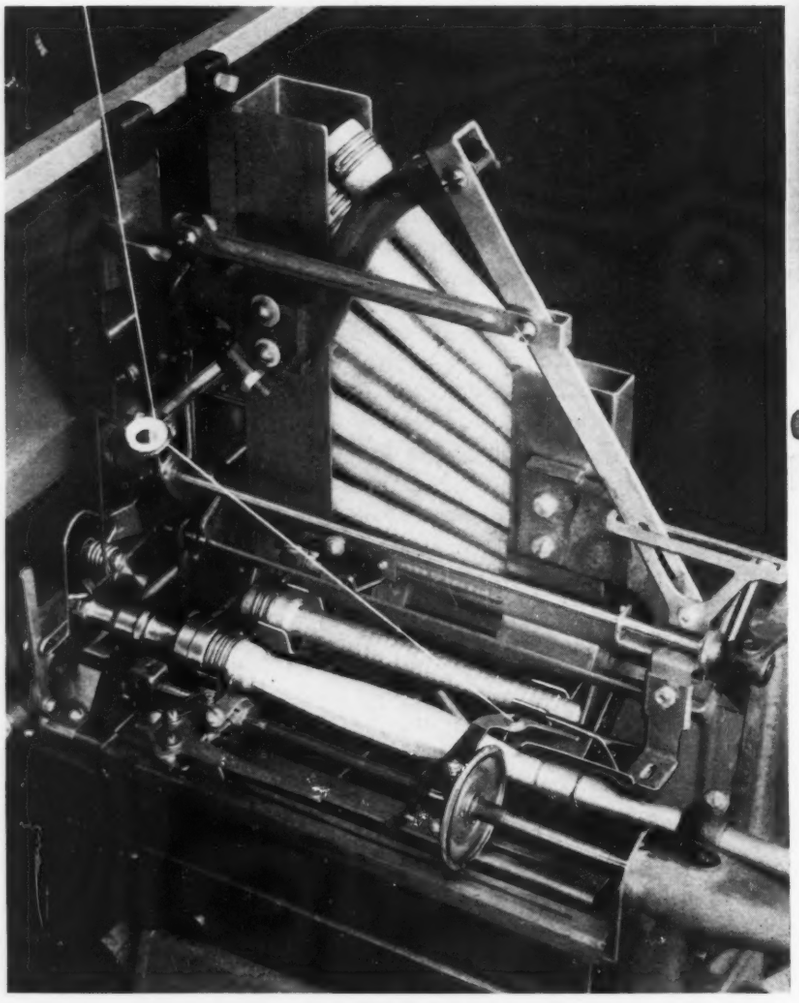

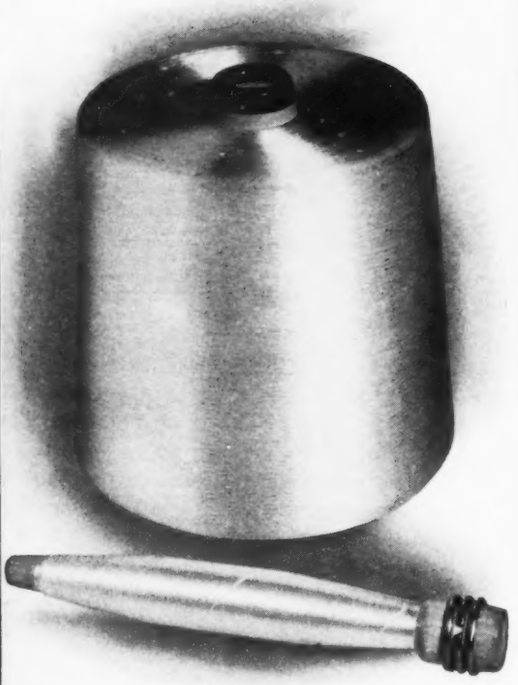

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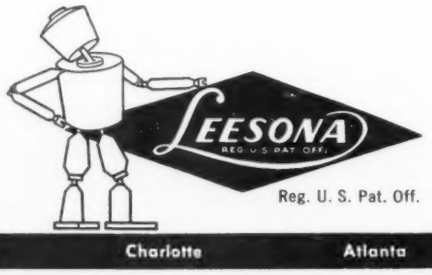

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TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

The Textile Man's Job in 1941

IN ALL PLANNING FOR 1941, one thought should be kept dominant: "The program's going to be different." How different, no one yet knows—but plenty different. The world as we have known it is in the discard; a new world, still hazy in outline, is in the making.

As a matter of fact, this change has been taking place for two decades—ever since the First World War. It is only that its pace has been accelerated. Hitler eliminated what might be called the cyclical rhythm of an evolutionary movement, and substituted therefor the harsh staccato of a revolutionary movement.

In trying to gage the extent and effect of that movement, it would be possible to wander off into abstractions of almost cosmic significance. But for the purposes of this industry and of this year ahead, we intend to be direct and specific.

From that standpoint, the main thing which the new world order is going to mean to textile manufacturers in the years immediately ahead is tough scratching. We could sugar-coat that statement with a lot of suave qualifications, but the reader would be entitled to reply: "Call it what you want, I still say it's spinach."

This tough scratching is going to be due to the fact that whether we get into the war or stay out of it, whether Hitler wins or loses, this country is going to spend more and more billions each year on a non-productive enterprise: armament. And that will mean more and more taxes, which in turn will mean—or at least threaten to mean—a lower and lower standard of living. The extent to which American industry and labor mitigate the latter catastrophe will be one index of the capacity of American democracy to survive the present crisis.

FACED WITH SUCH A PROSPECT what should textile manufacturers do in 1941?

There are two main lines of action:

1. **Keep fit.** This means modernization, but not merely in the sense of modernization of plant and equipment. In its broader sense, it means also modernization of management policies, of merchandising methods, of product, of materials, of processes, and of all the other phases which make up the complex business of running a manufacturing company. . . . We mentioned, incidentally, merchandising methods. But there can be nothing incidental about merchandising procedure. The great problem still facing this country—and the world, in fact—is to move materials and products from where they are to where they are needed.

2. **Remember the MAN.** This means industrial relations—but not merely in the sense of a personnel department and personnel records. It means also the personnel policies whereby worth-while employees are attracted to, and kept in, an organization. It means the educational processes whereby employees are enabled to progress to better jobs, and to substitute for others called away by the draft. It means the day-by-day relationship between overseer and worker, and the overall relationship between top-management and employed personnel. It means the difference between antagonism and cooperation.

THESE TWO SIMPLE lines of approach hold the key to successful management in the textile industry in 1941. They will form the framework of TEXTILE WORLD's editorial program during the year. We start, in this issue, with an outstanding case-study in modernization. (See page 68.)

This program will not stop Hitler. It will not make the world safe for democracy, It will not avert the new world order now in the making. But it *will* enable the textile manufacturer, as one factor in our national economy, to do his bit toward adjustment of that economy to those changes.

And what more should anyone ask of him?

Douglas G. Woolf

THE EDITOR SAYS

The Defense Urgency

The country is at last aroused to the urgency of the defense program. That's a long way from being prepared, but it's an indispensable first step.

The next step is for every industry and every group to examine its part in the program, as objectively as possible, and to determine just what could be done that is not being done, and what should not be done that is being done.

In textiles there is no critical problem such as exists in airplanes or machine tools, to cite two examples. With a few exceptions, there is ample supply of most textiles in stock or in process to meet the defense needs, as thus far revealed.

However, those needs may be sharply increased at any time, if the emergency suddenly becomes more acute. There is no assurance that the bulk of textile purchasing by the Army and Navy for the current fiscal year has been completed. A shift in the international situation could change the picture over-night.

Consequently, it is up to each branch of the industry, through its trade association, to keep constantly in touch with its production status and potentialities, and with Government requirements. It is necessary to be ready to shift at once from civilian to defense orders, if the need should become acute. It is vital that prices be kept within reasonable limits—not only from a patriotic standpoint, but also from the purely selfish consideration that run-away prices would force the Government to take over.

From the Government standpoint, it is essential that better coordination between the Defense Commission and the Quartermaster Corps be established.

Also, the Q. M. should regard more realistically the limitations of an industry before placing orders. It should take the advice of men who know the field, and should not imagine that a mere invitation to bid can *force* goods from machines in quantities beyond the capacity of those machines during the delivery period specified.

All that such an attempt does is to force prices up unduly. The strain placed upon the combed yarn market by the Army's feverish demands for the now famous 8.2 oz. cloth was serious. In our opinion, the surprising thing is not that combed yarn and cloth prices advanced, but that they were kept within sane limits. The latter fact is due to restraint exercised by the industry itself. In fact, in at least one section of the market, we know that there was a "conspiracy" to keep prices *down*. As we said previously in these columns, this has been the most restrained textile boom in our memory.

Finally, labor can make or break this defense program. Strikes, listless attitudes, unwarranted wage-demands —these and other actions can only defeat the desire of this nation to get ready to save itself as rapidly as possible. The initiative, however, will have to be taken by the representatives of labor on the Defense Commission. That is where the pattern for the behavior of labor throughout the country is set.

Industry, Government, Labor—these three groups have in their hands the very safety of this country. And since a very large percentage of us belong to one or another of those groups, these words are directed toward all of us, and not toward two other fellows.

"Selling" Statistics

The proverbial job of selling fur-lined overcoats to the Hottentots in Africa is not much more difficult than that of selling statistics to an industry. It is a fair estimate, we believe, that at least 90% of the statistics issued periodically by trade associations are merely placed "on file" in the plants and offices of the industries concerned without being studied or, much less, put to work.

Therefore, any real selling job done in this direction merits a medal.

In the Aug. 21, 1940, Special News Letter of the National Association of Hosiery Manufacturers, there was a front page article entitled "A Few Questions in Which Every Hosiery Manufacturer Should Be Interested at This Time." There followed 11 questions, of which the following are samples:

"What was the stock situation on June 30, 1940, for each type of hosiery?"

"What volume of business may the industry expect during the second half of 1940 based on the performance of the first half?"

"What are the Army and Navy hosiery requirements per enlisted man?"

The reader's appetite for information thus aroused, he was then advised:

"All the above questions are answered briefly and clearly in the Quarterly Statistical Bulletin just issued by this association. A study of the facts presented in the Statistical Bulletin will prove valuable to every executive within the industry in planning the operations of his company during the balance of the year."

When we read this article last August, we marked on our copy: "Swell job of selling statistics." Consequently, we were not surprised to read in the Dec. 11, 1940, issue of the Special News Letter that the association's statistical service had been commended by the industry itself. To quote one hosiery manufacturer: "I have been reading with much interest and admiration the Quarterly Statistical Bulletin. This is an outstanding piece of work. I doubt if there is any other industry that has anything better, if as good."

It's one thing to compile statistics. It's another thing to get the industry to use them. Evidently the hosiery association is doing both jobs.

The Cause Moves On

Last August, on this page, we said:

"The world is making progress after all. Not so long ago the National Council of American Importers staged a banquet that wasn't eaten. Over 300 'phantom' diners paid $3 a 'plate'—the entire sum going into a fund to pay the expenses of National Foreign Trade Week.

"The millenium will have been reached when an association arranges a program of speeches that aren't given. That will be worth $3 of any man's money."

Two months later, the following item appeared in the New York *Times*:

"Washington, Oct. 3 (AP)—The information division of the Federal Works Administration sent out today an eight-page release entitled 'Text of Remarks by John M. Carmody, Administrator, Federal Works Agency, before the Society of Recreation Workers of America at Cleveland, Ohio'. Attached was a memorandum: 'This speech was not delivered.'"

We are getting to be almost afraid of the Power of the Press.

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Bombs Over the Textile City of Manchester

THE WAR OF BRITAIN became even more real to textile men in this country last month with the news of the bombing of Manchester, cotton-textile manufacturing center of England. Details of the extent of damage done to the industrial plants are not available. The accompanying radiophoto, passed by the British censor, shows air-raid wardens inspecting wrecked buildings in Manchester.

If anything were needed to do so, this brings added determination to the American textile industry to insist that the policy of all aid to Britain—the wish of the majority—be pursued vigorously.

Pictures Inc.

What's in the Cards for 1941?

How it looks from here—to those in other industries, and in textiles

NEXT MONTH, in our Annual Review and Forecast Section we are going to try to answer the question "What About 1941" so far as technical and economic trends in the textile industry are concerned. As a prelude, we present below a series of comments by students of other industries as well as of textiles, concerning the business outlook for the New Year.

We have extracted from their year-end statements only their specific conclusions. The net, we feel, gives a flash picture of the future.—*Editor.*

GENERAL BUSINESS

"The year 1941 opens with a new industry in the throes of creation—armament. It is the biggest industry to develop in the United States since the automobile. Current expenditures on domestic defense alone amount to about $5,000,000,000 a year (in 1929, the wholesale value of automobile output was less than that). The main problem of 1941 probably will be to turn out in sufficient quantity the goods the armed forces and consumers will want to buy."—J. A. LIVINGSTON, economist, *Business Week.*

MANUFACTURING INDUSTRIES

"The manufacturing industries will be busier during 1941 than they have been at any time since the World War. Already producing at considerably above the levels of the late '20s, capacity is being added and shifts are being increased. Although greatest present activity is in durable goods, the non-durable goods plants will be forced to increase production as the effect of increased employment is felt in the demand for normal goods and services."—L. C. MORROW, editor, *Factory Management and Maintenance.*

AVIATION

"During 1940 the aviation industry passed through the early stages of growth from small to big business. At the beginning of the year, the productive rate was about 500 planes a month, with a potential capacity of 850 a month, and the industry's backlog was $900,000,000. The defense program now calls for a 3-fold expansion in floor space and a 5-fold expansion in personnel, and a productive capacity of 40,000 or more airplanes per year by the middle of 1942. The present backlog of defense orders is just under 3½ billion dollars, and the defense program calls for more than 3 billion dollars worth of airplanes per year for the duration of the emergency."—LESLIE E. NEVILLE, editor, *Aviation.*

ELECTRICAL UTILITIES

"Electric power utilities, according to preliminary estimates, will spend upwards of three-quarters of a billion dollars next year for new and improved construction. With the exception of 1930, this is the largest spending program of any year since the start of the depression and exceeds the 1940 budget by approximately 25%."—S. B. WILLIAMS, editor, *Electrical World.*

MACHINE TOOLS

"Machine tool builders expect to have the biggest year in history during 1941. Output for the industry is likely to reach $650,000,000. That is a substantial increase over the last year's total of $425,000,000 and is more than three times the volume done in 1937. The industry is booked months in advance almost exclusively on orders for the U. S. defense program and for the British. The amount of business which can be taken from the companies making non-defense goods has necessarily been reduced close to the vanishing point."—BURNHAM FINNEY, editor, *American Machinist.*

CONSTRUCTION

"Not for a decade have construction prospects been so promising as they are for 1941. The last year, as a result of a billion and a half of defense contracts let in the last six months, was the best since 1929. The total for all construction, including residential, was about 8.5 billions or 21% above 1939. Based on best possible present foresight, total construction in 1941 should approximate 9.5 billion dollars."—WALDO G. BOWMAN, editor, *Engineering News-Record.*

CHEMICALS

"Compared with 1939, chemical production in 1940 was higher by more than 15% and export shipments carried a valuation about 35% above the 1939 figure. The chemical industry enters the new year with a potential market which will test its productive capacity and it is probable that the new year will be memorable for the plant expansions which will become necessary."—S. D. KIRKPATRICK, editor, *Chemical & Metallurgical Engineering.*

The Textile Outlook

"**WHEN TEXTILE MILL ACTIVITY** sets a new high for a year, that's news. When it sets two successive records in two consecutive years, that's super-news. When it completes those two years, and faces a third with every prospect of continued high levels, that's—in Hollywood parlance—super-colossal news.

"And that is just what the textile industry has done in 1939 and 1940, and faces in 1941.

"TEXTILE WORLD's index of mill activity for 1940 will be approximately 140 (on the basis of 1923–25 as 100) when all statistical returns are in. That new high represents an increase of 6% over the index of 132 for 1939, the previous record year. It compares with 115 for 1929, and with 125 for 1937, the third highest year in the last decade.

"For 1941, every indication points to a maintenance of existing production records for at least the first half of that year. Beyond that, it is difficult to predict at the moment. Too many influences which defy analysis are at work. Even making allowance for these unpredictable factors, however, it seems reasonable to expect a high rate of activity for the calendar year 1941.

"The records of 1939 and 1940 were due, primarily, to two external im-

pulses: the outbreak of the European war in the fall of 1939 and the inauguration of our own defense program in the spring of 1940, respectively.

"The latter is still the controlling influence in textiles. Mills have defense orders ahead which should keep them busy, if normal civilian demand develops, until the start of the next governmental fiscal year July 1, 1941. Then, additional appropriations and calls for goods are to be expected—although probably not of the proportions of those placed during the current fiscal year, unless we become engaged in actual hostilities.

"The expectation of active civilian purchases of textiles during 1941 is supported by the fact that the durable-goods industries are also operating at peak levels, thus supplying purchasing power for the products of a consumers'-goods industry such as textiles. In fact, industrial areas are again experiencing a silk-shirt-and-champagne era from all reports. The champagne will be domestic, of course, and the silk shirts probably will be made of rayon."—DOUGLAS G. WOOLF, editor, *Textile World*.

* * *

"In 1940, domestic cotton consumption touched 8,000,000 bales during a calendar year. This is a substantial increase over the 7,371,000 bales consumed in the 1939 calendar year, and considerably in excess of the previous calendar-year record of 7,418,000 bales in 1937. The outlook for the future, as far as domestic consumption is concerned, is even brighter, and it is not unreasonable to hope for a record of 8,750,000 bales during the crop year, 1940-41."—DR. CLAUDIUS T. MURCHISON, president, *The Cotton-Textile Institute, Inc.*

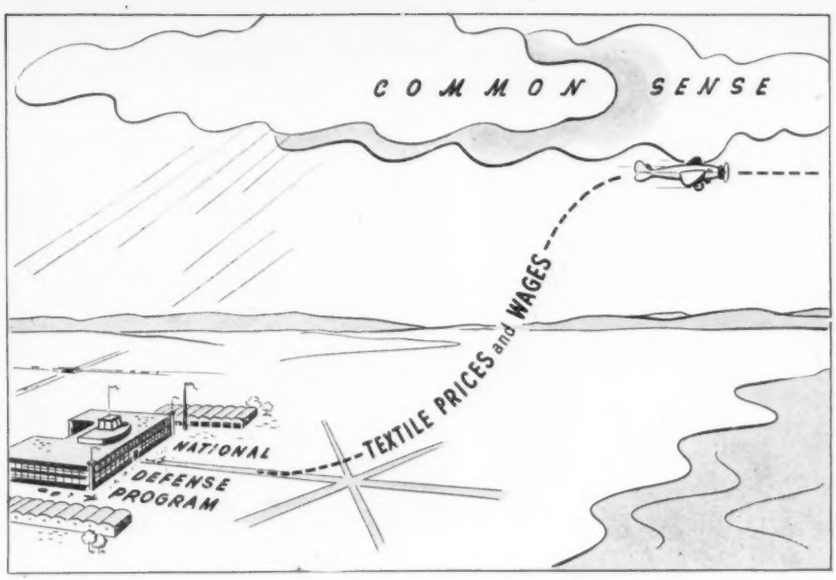
* * *

"A forecast for the cotton textile industry in 1941 would have to be so qualified as to be confounding. However, if the world situation remains approximately the same as in the final days of 1940, the first quarter of 1941 should be one of reasonable activity with prices inclined to hold firm.

"The industry should share in the benefits of increased spending, as the billions appropriated for defense are increasingly translated into greater purchasing power during 1941."—RUSSELL T. FISHER, president, *The National Association of Cotton Manufacturers.*

* * *

"Looking into the year ahead we must be prepared to see an increased displacement of silk hosiery by Nylon hosiery as a larger volume of Nylon yarn will be available and only part of the demand has so far been satisfied.



The real ceiling to textile prices and wages in 1941 should be that imposed by common sense; by realization that sometime, somehow the defense bill will have to be paid.

On the other hand, we may expect improved silk yarns and therefore improved silk stockings possessing longer wear without sacrificing sheerness.

"During the past year there has been very little expansion of capacity or establishment of new plants in the industry in contrast to the three years previous. We do not anticipate a net increase in capacity for the coming year."—EARL CONSTANTINE, president, *National Association of Hosiery Manufacturers.*

* * *

"We should guard very closely against any spiraling of prices such as that which had such a disastrous effect upon the price structure and upon the industry of Gaston county after the World War.

"At the same time it should be remembered that today's prices for reasonable profits in the industry cannot fairly be compared with prices in the past few years when the industry was operating virtually on a non-profit basis."—STUART W. CRAMER, president, *Southern Combed Yarn Spinners Association.*

* * *

"Government purchases of textiles have passed the peak and unless unplanned-for emergencies occur, this demand is likely to be sharply reduced next year. The industry has enjoyed a higher rate of operation in 1940 than ever before, which has afforded the opportunity to demonstrate its high efficiency. While 1941 volume should be substantial, demand is likely to be less intensive or concentrated."—*Scheuer & Co.*

* * *

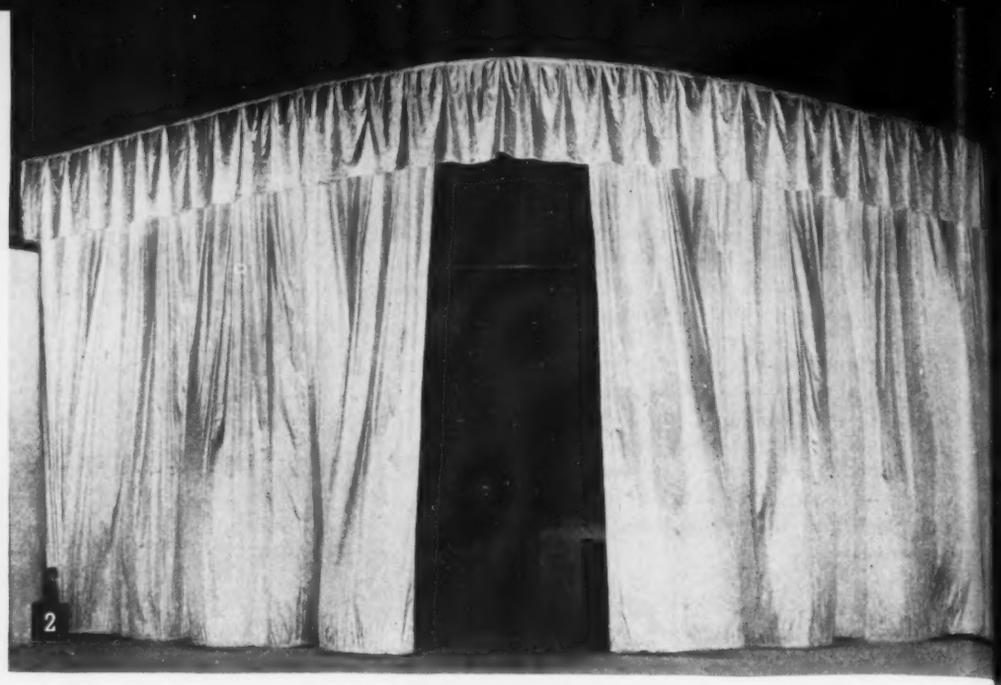
"Sales of cotton gray goods and yarns are now well in excess of production and the improvement continues. Prices have moved up some on most constructions. Mill stocks are down and orders for future deliveries are gradually enlarging.

"The first quarter of 1941 has sizeable orders awaiting deliveries. There is a general movement of all constructions and yarn numbers. Because of the shift to 'must orders' on the defense program, there are delays in some commercial shipments.

"Indications are that 1940–1941 will be a peak year in production for all time past. It looks as if 9,000,000 bales of cotton will be consumed for all purposes."—W. M. MCLAURINE, secretary, *American Cotton Manufacturers Association.*

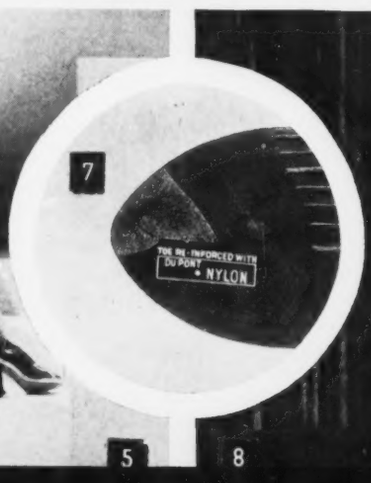
* * *

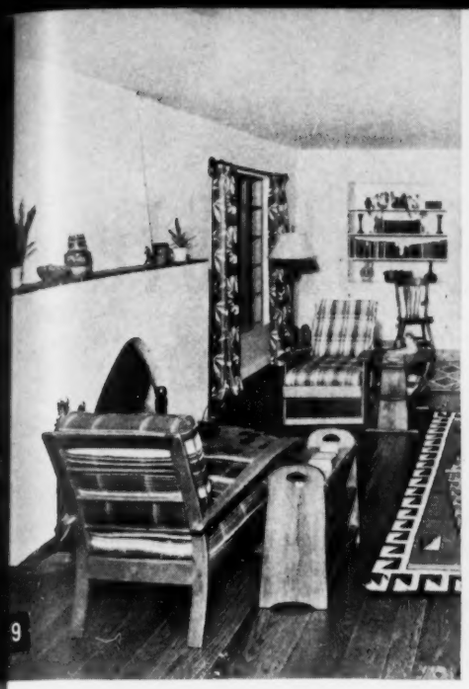
"Sober reckoning brings us to the conclusion that the year ahead is likely to be influenced to an important degree by martial developments. The normal outlook, based on the statistical position of the industry, would indicate some tapering off from 1939 and 1940 levels. However, any one of three factors—continuation of present heavy Government buying, even greater Government purchases which could be expected in the event that we are drawn into war, and the possibility that we may be called upon to ship underwear abroad as well as airplanes, ammunition, etc.—may completely change the picture."—ROY A. CHENEY, president, *Underwear Institute.*

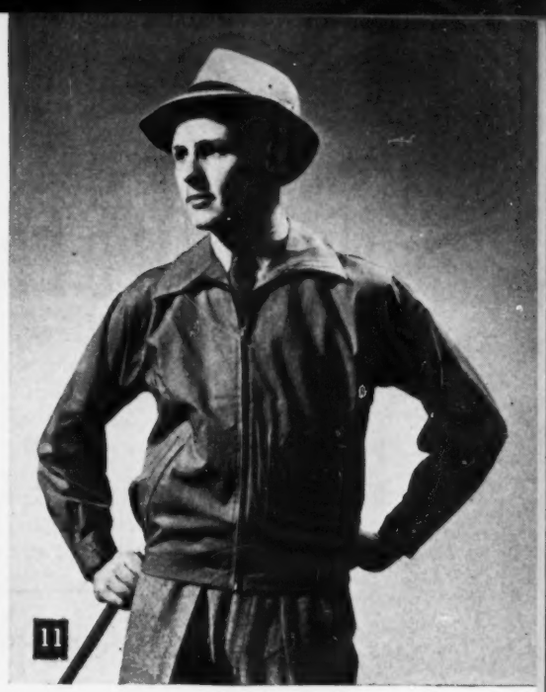


Merchandising Ingenuity Opens

1. This combined nightgown and bra, a newcomer in silk lingerie, is winning favor with consumers, and promises to continue important in 1941. (International Silk Guild).
2. This curtain, 35 ft. high and 80 ft. wide, beautiful and fireproof, is woven of Fiberglas. It is in use at the Center Theater, New York, as background for an ice-skating chorus in the current production, "It Happened on Ice". Sets and curtain were designed by Norman Bel Geddes.
3. Spun rayon blankets were one of the important new developments of 1940 and manufacturers predict increased volume this year. Here is a blanket of Crown-Tested spun-rayon blended with natural fibers which is a best-seller in the Pepperell Mfg. Co.'s current line.
4. Typical of rayon's ever-widening acceptance is recent progress in knitted dress goods. Illustration shows a Nassau dinner dress of Crown-Tested rayon jersey from William Heller.
5. Demand for upholstery silk fabrics has been stimulated by the successful introduction of these fabrics in the apparel field. Illustration shows sheath dress of green silk woven to resemble pleats, and waistcoat of brown silk satin in matching green stripes. (International Silk Guild).
6. Wool-growers as well as the cotton trade are interested in this new use for cotton: Cotton coats for sheep have proved beneficial in improving the health of the sheep and the quality of the wool. (R. H. Burns, Univ. of Wyoming).
7. One important phase of Nylon's use in men's half-hose has been increasing adoption of the yarn to reinforce toes of half-hose made of other fibers. Such a toe is shown here. (Holeproof Hosiery Co.)
8. This bathing suit of Vinyon was displayed at the "Parade of Science" staged by National Association of Manufacturers in New York on Dec. 13. Already established for use in filter cloths and other industrial fabrics, Vinyon has come experimentally into apparel uses.
9. Cotton continues to find new outlets in industry. A new wallboard of cotton-covered ply-







New Markets for Textile Fibers

wood has been devised for room construction. Illustration shows portion of a room with walls of this material. (Cotton Textile Institute).

10. Tweed-covered pianos with matching tweed-covered piano stools are among the newest markets for wool goods, developed by enterprising merchandisers. Illustration shows a Wurlitzer Spinette Style 400, covered with a smart new tweed. These pianos are available in nine standard patterns and are covered with any textile selected by the purchaser.

11. A new member of the growing line of rayon apparel for men is this rain-repellent golf jacket, made by Brentwood Sportswear Mills from Crown-Tested spun rayon.

12. All-Nylon knitted underwear for women, a product of the Luxite Division, Holeproof Hosiery Co., marks the first application of Nylon to this market.

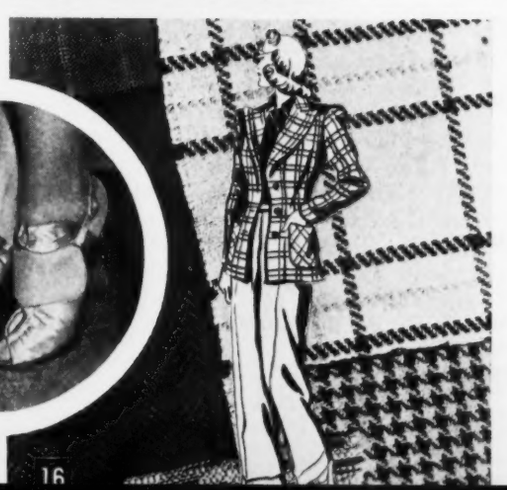
13. This brown and white accordion-striped bathing suit, knitted of fine wool yarn, introduces a new note in swimsuits through novel fabric treatment. Entire suit is jersey-lined. (Designed by Florence Gainor, Inc.)

14. With the advent of these Nylon satin slippers, a new product not yet available commercially, indications are that Nylon hosiery soon will have to share its legwear honors. (Du Pont Style News Service).

15. And still they come! Another variation of wool's expanding markets is shown in this pom-pom woolknit hat and matching wool yarn muff. (Bureau of Fashion Trends).

16. By going directly into the men's wear range of plaids, herringbones and checks, Ramex Fabrics have created a line of cotton tweeds for women's sportswear which are now selling to the garment trade. (Cotton-Textile Institute).

17. Twenty yards of Arnold Print Works' new electro-embroidered cotton lawn in star and stripe pattern, a Fibredown fabric, were draped on the model for this 1941 evening gown as part of a merchandising program to promote this new textile process.



New Defense Buying Probable

Extent of deficiency appropriations requested will depend on events

McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, Chief Correspondent
Blaine Stubblefield
Irvin D. Foos Carter Field
Robert Colborn M. G. Maury

By BLAINE STUBBLEFIELD

THERE ARE THREE PHASES of the Quartermaster's clothing and equipage procurement for defense. First, the $400,000,000 in cash and authorizations for the fiscal 1941 ending June 30 is nearly all spent or committed. Second, the War Department's regular supply bill for the fiscal year 1942, to be introduced soon after the 77th Congress meets on Jan. 3, is unofficially estimated at about three-quarters the size of the present program, or $300,000,000, to be available July 4. (The Budget estimate calls for $200,715,000 which of course can be increased.) These two parts of the program were explained in the December issue of TEXTILE WORLD. Third, a new factor now appears in the probability that sizeable deficiency appropriations and authorizations will be requested, in addition to the $400,000,000, for the QM to fill out the balance of this fiscal year. Just how much such deficiencies might be, and for what specific items, will depend on events and changing plans.

But regardless of any plans, anything can happen. A turn of the war against Great Britain might cause Congress to authorize an army of four or five million men, mobilization to begin at once. This, of course, would put the textile industry on a war footing, probably much unlike the present procurement system. On the other hand, some Army officers think that emergency militarization of the country might take the form of a huge air arm instead of a horde of foot soldiers. But even an air force, suited to the power and needs of this country, would require hundreds of thousands of service men. These are uncertainties, not to be forgotten. As for the war in Europe, Washington adds up the belligerents' loud threats to mean that both are quaking in fear of destruction.

This country also looks scared, from here, but not bad enough to go on a war-production basis. Many of the national defenders pack off on Friday for the weekend, show up again Tuesday; and labor is out for a killing. It is agreed everywhere that we should give total aid to Britain short of war. Whether the country can be sufficiently roiled, without going to war, to do that, is the big question. This psychological problem mainly occupies the President's mind, while his new super-defense board, the Office for Production Management, wrestles with the physical side of lagging production. Even from Britain's point of view, it is debatable whether this country could do the most damage to Germany in or out, and the Nazis are not sure which way to push us, either. But that's another story.

The importance of any deficiency appropriations for the rest of this fiscal year should not be overestimated. If the Quartermaster had the Treasury, he could not buy any more of some types of cotton goods because all the available looms for those fabrics are already running full tilt. Of course, many cotton items are *not* at maximum production, and more could be made. A rough guess on wool goods is that about half of the plant capable of manufacturing for the Army is now so engaged.

NATURALLY, THE QUARTERMASTER wants to lay in a reserve supply of wool cloth for emergency. This magazine's prediction in the December issue that an appeal would be made to Congress for reserve wool cloth, is now privately substantiated by Government officers. There is little doubt that Congress will be in a receptive frame of mind. Whether a reserve is laid in or not will depend on whether further emergency need puts all reserve out of the question.

The wool supply for reserve fabrics is contingent on several things: (1) how far the Priorities Board would be willing to go in shutting off civil supplies; (2) whether at a critical time it would be good policy to draw substantially on the 250,000,000 lb. of Australian wool to be stored here; (3) available shipping space to transport South African and South American wool to the United States. Ship space for wool is not serious, but it is difficult, due to trade routes and one-way traffic complications.

A group of wool manufacturers meeting with the Defense Commission, persuaded the Commission that price advances on goods thus far had been justified. They asked the Army for long-range planning as a price leveler in wool cloth procurement. Such planning, of course, would be effective only in the absence of further emergency troop mobilization.

Incidentally, the State Department's announcement, Dec. 10, of the U. S.-United Kingdom agreement on storage here of the Australian wool reveals, in addition to details already published, that the U. S. may purchase *any part or all* of the wool when and if *this Government* finds that an emergency shortage exists; that the British Government may draw upon the wool provided (1) replacements of the amount withdrawn are on the way to the U. S. and (2) provided that at no time the total is depleted by more than 20%; that the U. S. accepts the wool f.o.b. Australian ports, and is responsible for safe custody, transportation, storage, handling, and insurance, including war risk.

A further note on foreign wool: apparently the British have advised the Australian Government to limit the export (to other than England) of wool coarser than 66s to lots containing 4% or more of burrs. The coarse wool is wanted for Army purposes, but manufacturers will not accept the heavily burred stock if they can avoid it, because of the additional processing cost. It has been suggested that the Defense Commission appeal to Britain about this control, but obviously it will not do so, since this Government is giving Britain priority over itself in most goods and supplies.

Talk about wool supplies is always with us, but when cotton gets critical, that's news. The President has suspended import quotas on extra long staple cotton, which is important in making balloon and airplane cloth. The

quotas had been set up under the AAA of 1933, on staple length of 1 1/8 in. The present action was taken following a report to the President by the Tariff Commission, in which the Defense Commission and the Department of Agriculture concurred. Only a few thousand bales of such cotton are grown in the world, and the Tariff Commission estimates that only a few hundred bales would be available for import to the United States. The duty is 7¢ a pound. Quotas remain in force on shorter staple.

Also in the defense cotton picture is new activity by the Bureau of the Census. It seems that, because of heavy demands for drills, twills, ducks and the like, the cotton-consumption-gossip situation has got out of hand, with bad results. Remedial statistical service by the Bureau is being planned and will be announced perhaps in late January. The Census questionnaire will ask for the amount of cotton consumption under each of some 12 classifications.

BUT WASHINGTON has no monopoly on textile defense news. After another of its frequent trips to the Philadelphia Quartermaster Depot, for the readers' information, TEXTILE WORLD has a couple of items to report. One is about the big order for 6,000,000 wool ties. Interested firms thought the Army should have ordered silk and rayon ties. QM says Army must stop depending on silk, for obvious reasons, and they think wool makes a better tie than rayon does. The trade was not surprised that silk was abandoned, but they did expect rayon to take its place.

And that 8.2 oz. twill story isn't all told yet. You've heard, of course, that 2.85 yd. jeans have been called for as a substitute, and there is a shortage of *that*. But QM is determined not to pay exorbitant prices if there is any way out. One partial remedy is a recent call for 1,500,000 shirts to be made of 80-square print cloth percale, dyed the same shade as the 8.2 oz. shirting. In this case, too, the shirt maker is buying the cloth.

Another trend in war fabrics is seen in a volume order for Nylon parachutes. Included in a recent Air Corps contract for 7800 'chutes were 200 made of Nylon—100 seat packs and 100 back packs. Switlick Parachute Co., the contractor, it is now revealed, made the first Nylon 'chutes sometime ago. The 200 units now on order may be regarded as a service test, which is the last hurdle a product has to take to become standard in the Air Corps.

NOW TO CLOSE with a brief look at the Navy. First, Navy procurement officers asked this writer to say that it greatly appreciates the cooperation of the industry. Several deliveries far ahead of expectations were cited. No trouble has been encountered. Navy attributes this happy situation partly to the fact that it does not "annoy" manufacturers with inspectors; goods are inspected upon delivery. If any of them fail to meet specification, an equitable deduction from contract rate of payment is made. Then too, the Navy is not on a procurement jag, as the Army necessarily is. Producers have plenty of time. And fewer new manufacturers have been brought in; suppliers are old hands at the game. Officers were particularly pleased about deliveries of blankets and wool socks.

The Navy is buying three times as much textile goods this fiscal year as it did last year, in anticipation of an increase from 170,000 to perhaps 230,000 men during 1942. The present clothing and small stores fund is about $24,000,000 and next Congress will be asked to put about $11,000,000 new money into the kitty. Readers may need to be reminded that this is a revolving fund, and that the men buy their clothing from Navy stores, with their own money.

QM Thanks the Industry

Exclusive Statement by Major General Edmund B. Gregory, The Quartermaster General, for publication in TEXTILE WORLD

THE QUARTERMASTER CORPS desires to again express its appreciation of the cooperation of the American textile industry in making the large quantities of various textiles required by the Army. The Textile Division of the Advisory Commission to the Council of National Defense has been most helpful with its advice and in securing the cooperation of the industry.

Practically all of the large orders for textiles for the fiscal year ending June 30, 1941, have now been placed, and deliveries on the contracts now out are to be made at an increasing rate.

The purchases to be made during the fiscal year 1942 are dependent upon appropriations to be made by the Congress and no exact figures will be available until some time after these appropriations have been made. It appears, however, that unless further increases are made in the Army these purchases will be less than those for the fiscal year 1941. It is hoped that these appropriations will be available early in 1941 so that contracts may be made well in advance of the deliveries required, as it has been found advantageous both to the manufacturer and to the Army to have long term contracts.

Any further considerable increases in the Army would, of course, require a proportionate increase in textiles required to clothe and shelter the Army. The speed with which they would have to be obtained would be entirely dependent on how soon after funds were made available it was necessary to supply the additional men.

At the present time the Army is purchasing textiles in accordance with its standard specifications wherever possible. In those cases where it has been necessary to depart from the specifications, as in the case of cotton uniform cloth, a return to the standard specification is anticipated as soon as the immediate needs are supplied, and it is again possible to secure the necessary volume of the specification article.

The present types of both wool and cotton cloth in use by the Army have been thoroughly tested and found to be very satisfactory and economical for the purposes for which they are intended. It is possible, of course, to use substitutes in both wool and cotton cloth. It has been found, however, that the substitute articles are not as satisfactory for the purpose nor do they give equal value in the finished garments with the standard specification article. For these reasons it is highly desirable to maintain specifications when practicable.

Fabrics For National Defense

Information on three cotton fabrics used in equipping our armed forces

By JOHN HOYE

8.2 OZ. TWILL REVISIONS. To ease the shock of the large orders for 8.2-oz. uniform twill, and to permit a greater diversification in production of suitable goods, three alternative fabrics have been specified. The original specification (U. S. Army Specification No. 6-201A, TEXTILE WORLD September, 1940) is still in order, but bids on the alternates are being accepted.

The alternates are, with one exception, based on the original specification, and only the revised details are given below.

Alternate 1—8.2-oz. twill which conforms to Specification 6-201A except that filling yarn may be combed singles, and minimum breaking strengths may be 180 lb. warp and 110 lb. filling.

Alternate 2—8.2-oz. twill which conforms to Specification 6-201A except that both warp and filling yarns may be combed singles; minimum breaking strengths may be 155 lb. warp and 105 lb. filling.

Alternate 3—8.5-oz. twill which conforms to U. S. Army Specification No. 6S-201A, except for several revisions. Specifications for this fabric follow:

Weave—3 up, 1 down twill to the right.

Thread count (minimum)—90x54.

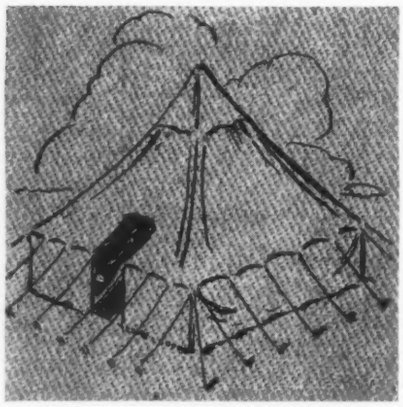
Weight—8.5 oz. per sq.yd. plus or minus 5%.

Yarns—Warp can be either single or 2-ply combed peeler; filling can be single or 2-ply, carded or combed; and direction of yarn twist is to be the reverse of the twill in the fabric.

Strength (1x1x3 grab)—140 lb. warp and 80 lb. filling.

Finish, color, fastness, piece length, and shrinkage requirements are the same as those described in Specification 6-201A.

[Approximate suitable gray constructions (not given in specification) necessary to produce acceptable fabrics: Alternate 1—40 in., 108x60, 1.50 yd., 36/2 combed warp and 12.5/1 combed filling; alternate 2—40 in., 108x60, 1.50 yd., 36/2 or 18/1 combed warp and 25/2 or 12.5/1 combed filling; alternate 3—39 in., 86x56, 1.66 yd., 27/2 or 13.5/1 warp and 20/2 or 10/1 filling.]



Cotton tent twill

COTTON TENT TWILL, covered by QMC Tentative Specification No. 2933, has been specified in order to relieve the tight delivery situation existing on tent ducks. Its qualities as a tent fabric are satisfactory, although not up to those of duck. Many mills which can not produce duck can manufacture the twill.

The fabric is specified in only one type, and in two weights; yarns are carded singles, weave is 3 up, 1 down.

Cotton—Shall be of suitable staple and grade; yarns shall be clean, well carded, and evenly spun. Finished cloth shall be clean, evenly woven, and free from defects which affect its appearance or serviceability.

Color and finish—Fabric shall be dyed mineral khaki and made highly water repellent with aluminum acetate, wax, and sulphur-free soap. Shall show "good fastness" to weather when exposed for 10, 20, and 30 days.

Weight—(minimum per sq.yd.) 10.25 oz. or 8.5 oz., as specified.

Width—29½ in. minimum.

Thread count—(minimum) 94x51 for 10.25 oz., 94x52 for 8.5 oz.

Strength—(1x1x3 grab) 190x150 for 10.25 oz., 160x120 for 8.5 oz.

Water repellency—30 cm. for 10.25 oz., 24 cm. for 8.5 oz.

Weave—3 up, 1 down left-hand twill.

Finish—Shall be desized before dyeing; use of finishing or loading materials is prohibited.

Length—Pieces shall be 50 yd. or longer unless otherwise specified.

Tests—Wherever applicable the tests described in Federal Specification CCC-T-191 shall be used.

In testing water repellency, cloth shall be clamped over the orifice of a hydrostatic pressure machine and subjected to pressure of a rising column of water. The height (in centimeters) of the column when the water penetrates the cloth shall be recorded.

[Approximate gray construction (not given in specification) necessary to meet finished requirements: for 10.25 oz.—31 in., 88x56, 1.48 yd. per lb., 10's warp and 8's filling; for 8.5 oz.—31 in., 88x56, 1.96 yd. per lb., 14's warp and 10's filling.]

COTTON LAWN, covered by U. S. Army Specification No. 20-104A, is the basic fabric used in making rubberized raincoats for enlisted men in the Army. As it is necessary to have a fabric with a minimum of defects, the gray goods are given a severe inspection. Inspection for holes and slubs is especially rigid. Because of this strictness, these lawns bring a premium of 15%.

Finished specifications:

Color—Shall be an approved shade of olive drab, vat dyed, and shall show "good fastness" to weather.

Finish—Shall be desized, mercerized; water repellent finish with aluminum acetate and soap (or other approved method); may not contain more than 0.005% copper and 0.001% manganese.

Thread count—96x94.

Weight—1.80 oz. sq.yd. minimum.

Breaking strength—33 lb. x 22 lb.

[Approximate gray construction (not given in specification) necessary to give a fabric that will meet specifications: 40 in., 96x100, 6.60 yd. per lb., 60's combed warp, 80's combed filling.]

Correction—In 29½ in. 15.5-oz. cotton duck both warp and filling yarns are 3-ply, and not 2-ply as was incorrectly stated, because of a typographical error, in our November issue.

No. 6 of a series designed to help manufacturers in production of fabrics for national defense. Mr. Hoye, author of "Staple Cotton Fabrics," again interrupts his regular series to discuss 8.2-oz. twill revisions, the new tent twill, and cotton lawn used in making rubberized raincoats.

A Focus for Style Authority

"New York's Fashion Futures," backed by big business, is new style arbiter

THE GREAT style-crystalizing enterprise staged by the Fashion Group, Inc., New York, under the title "New York's Fashion Futures" is taking place as we go to press. Dates were Jan. 8 and 9, and place was the Hotel Astor. It was a trade show for the spring season.

"Fashion Futures" is a direct effort on the part of fashion's most representative association to seize for New York the fashion authority which, for many years prior to the 1940 debacle, had been vested in Paris. This event brings to a focus the leadership already acceded to New York. It puts the stamp of top style approval upon a group of offerings which will set the tone and character of the forthcoming spring season. Behind the directing committee, made up of members of the Fashion Group, stand George A. Sloan, chairman, and five other members of Mayor LaGuardia's Business Advisory Committee. The make-up of this committee indicates the interest which "big business" is taking in establishing New York as the world's fashion center. Beside Mr. Sloan, the members are: Philip E. Reed, chairman of the board, General Electric Co.; Clarence Francis, president, General Foods Corp.; David Sarnoff, president, Radio Corp. of America; Louis A. Strauss of Kuhn, Loeb & Co.; and Frederick Hasler, chairman of the executive committee, Continental Bank & Trust Co.

The Fashion Group's directing committee comprises Mrs. Edna Woolman Chase, editor-in-chief of *Vogue;* Mrs. Carmel Snow, editor of *Harper's Bazaar;* Miss Dorothy Shaver, vice-president, Lord & Taylor; and Miss Tobé, of Tobé, Inc. Out of the group's 1,000 members, nearly 300 worked directly on the show.

At a meeting which prefaced the style show, Dorothy Shaver stressed the fact that this show was the Fashion Group's editing of fashion. "We look over all," she said, "and give our authority to what is good. Normally we are highly competitive and do not let each other know what we are doing, but for this show we are pooling our knowledge relative to trends."

Mrs. Chase stressed that the show was a definite move to stimulate American designers, as the models were going before a real jury and acceptance for the show would be a mark of honor. Mrs. Snow pointed out that the show gives "authority" which the trade had lacked in the absence of Paris.

Miss Tobé explained that the committee had reviewed many fabric collections and that certain items had been reserved for first display at this show.

It is understood that this show with its enlarged scope will continue to be a regular seasonal feature of the New York market. "Fabric Futures" was initiated in 1935 and each year has gained in influence and importance. Fabric designers will take a more conscious part in succeeding shows since they will have time to prepare special offerings and to cooperate with garment designers in creating special materials.

George Sloan, who learned his textiles as president of the Cotton-Textile Institute, points out that the primary fashion industries, including textiles (industrial fabrics deducted), leather, jewelry, furs, cosmetics, etc., have an annual volume of $6,600,000,000 to which must be added $4,000,000,000 more to arrive at retail value counter.

"The industrial and commercial welfare of the City of New York," said Mr. Sloan, "is directly related to the prosperous functioning of our local ready-to-wear and accessory industries. New York is the logical center of apparel origination and production for the United States and the Western Hemisphere."

Around the table from left to right are: Clarence Francis, F. E. Hasler, Mrs. Edna Woolman Chase, George A. Sloan, Dorothy Shaver, Philip E. Reed, Miss Tobé, David Sarnoff. In background at left are three press representatives from the fashion field.

Sale of New England Mill Houses

And a few lessons learned in that section which the South might well heed

By HARRIET L. HERRING

Institute for Research in Social Science, University of North Carolina

In the May and June 1940, issues of TEXTILE WORLD, we published two articles by Miss Herring on the sale of mill-houses to employees, in the southern cotton industry. The author has now extended her investigation to New England, and this article is the result. . . . . As always, Miss Herring writes in this case as a researcher, without any preconceived notions.—*Editor.*

SOUTHERN TEXTILES have repeated the history of the New England branch of the industry both in the larger outlines and in an amazing number of smaller details. So complete has been the recapitulation that when some new situation arises in the South there is a temptation to examine the record of New England. A parallel can usually be found and a valuable object lesson in how at least one type of solution to a problem is likely to work out.

It is true that in one recent development, disposing of company housing, the lesson for the southern mills in the experience of the older center is somewhat more oblique than usual. But even the dissimilarity contains some negative suggestions and warnings.

The last three or four decades have seen so much written on the southern mill village that it has come to be popularly assumed that this form of company activity is unique among southern mills—a sort of vestigial remnant. And so it may be surprising, even to some of the readers of TEXTILE WORLD, to realize that company housing is still common in New England textile towns and villages, or at least it was until mill liquidation of the last decade and a half eliminated both company and housing in many cases, and more recent sales of tenements have removed existing companies from the housing business.

There have been, apparently, two rather distinct periods of disposing of company houses. The first was in the 1880's and 1890's. Data on the process are extremely scarce. An examination of literally hundreds of articles, books, and reports on the textile industry of New England, or about cities in which mills were located, reveal that most of the writers and investigators assumed that company housing was a thing of the past. The majority dismissed the matter quite casually by saying that the mills no longer had villages without saying when or how they disposed of the property. Incidentally, if any reader knows of a thorough-going treatment of the subject, the writer would be grateful for information concerning it. By piecing together various oddments of information from printed sources and interviews with persons whose recollections cover the period one can get the general picture.

First of all, in the larger places the mills and the cities simply overran the original company housing. Textile spindles increased from six million to 13 million in the two decades between 1865 and 1885, the bulk of this growth being in New England. Plant expansion and business and service needs of the rapidly growing population preempted the space occupied by the older cottages, row houses, and boarding houses, the last being outmoded as immigrant families replaced the young country-girl operatives. To save building costs and to take better advantage of land space, many mills built double and multiple family tenements, though apparently rarely enough to house all employees. Private enterprise entered the field with more such houses.

Each wave of immigrants of a different nationality added to the complication of company houses: Differences in standard of living and social distance between the groups made company houses less than attractive, and gradually quite unacceptable, to the older nationalities. The mills began to feel that subsidizing the property over and above the return of low rents was unnecessary; there are suggestions that its unproductivity combined with the growing absentee ownership system was being reflected in poorer upkeep. On the other hand, workers in company houses grew restive under the controls and regulations, while those paying higher rents to private landlords were dissatisfied with an arrangement which gave more real wages to part of the working force. One man remembers that mills in his city allowed some houses to stand vacant until they practically tumbled down or melted away under the hands of thieves; that some tore down a number of tenements and let the lots stand vacant rather than maintain and pay taxes on nonproductive property.

TENEMENT BUILDING by city mills virtually stopped before the rate of spindle growth tapered off in the 1880's, so that mills were housing progressively smaller percentages of their operatives. Also in the early 1880's some city mills began to sell their tenements, and with a few exceptions had about finished the process by 1900. The available information furnishes little evidence of

This and opposite photo from Samuel T. Freeman & Co.

This Manchester, Conn., house sold for $2250

Many New England villages have been sold at auction. Above is scene on Factory St., Baltic, Conn., during such a sale in July 1939. Double dwelling at center brought $1625.

large quick sales, though there were a few cases of outright sales to real-estate companies. In the main it was a gradual disposition, a house or a few houses at a time. Some employees bought both for their own residence and rental, usually by installments spread over a period of two or three years.

It appears fairly certain, however, that a majority of the tenements were bought purely for investment or eventually came into the hands of such owners. It is significant that a decade after the bulk of the selling was over at least three of the chief textile cities, Lawrence, Lowell and Fall River, witnessed the rise of a housing problem so acute as to result in official or unofficial housing surveys. The reports of the investigators described serious overcrowding, bad sanitation and poor maintenance. In Fall River, for example, the committee considered 22% of the houses covered by the survey to be unfit for human habitation.

All the surveys reported rents that were high relative to the accommodations, and quick to rise upon the heels of a wage increase. Attitudes toward the problem varied: a feeling that the maladjustment was due to progress—that the supply of houses had not kept up with demand because the city was growing so fast; blame for the employers for being completely indifferent to the welfare of their workers; and even some nostalgia for the good old days when the mills provided low rent housing which was remembered as being better than much then existing.

Mills in the smaller places, and those which, with their houses, constituted a village, responded to the trend of the 1880's and 90's chiefly in ceasing to add tenements as the plants grew. They did not build for much the same reasons that mills in the South have ceased to add to their villages in the last two decades, namely because economic, social and psychological disadvantages outweigh the advantages, and because it was no longer necessary in order to secure workers. The increasing density of population and growing electric street car transportation made it possible to draw labor from an ever widening circle. It is true that some found it desirable to build houses during the intense activity of the war years or immediately following. But in the main they simply kept what they had, growing less strict about occupants being employees, and occasionally encouraging operatives to build homes.

THE DEPRESSION started for the country as a whole in 1929, but it had started several years earlier for textiles. Mills, North and South, felt the pressure of over-development and those of New England felt it more. From a high of 19 million spindles in 1924, the decline began, gradual at first but increasingly faster, from 18 million in 1926 to eight million in 1936—and the end was not yet. A member of a Boston engineering firm strategically placed for knowing the situation said that there was little or no selling of houses until 1926 and for a while after that was mainly at the time of mill liquidation.

Such sales must have awakened hard-pressed managements to the fact that there was a market—at some price—for such houses; that a white elephant could be disposed of, in fact could be made to yield a little needed cash. Some sold directly both to employees and others; many sold at auction. Between 1932 and 1934 one large company sold the dwellings attached to some 18 plants scattered over the New England States in an effort to reorganize and streamline to meet increasing difficulties. By 1940 one auctioneering firm had sold over 125 such groups of properties, 60% of them attached to mills still in operation.

Many mills in making the announcement of the sales were careful to point out that disposing of the houses had no connection with their manufacturing policies. One said it was eliminating every activity which did not bear directly upon the conduct of its manufacturing operations. Another said that the sale of the properties would be a definite aid in the successful carrying forward of the company's plans for the conduct of its industrial activities.

This is a frank facing of the economic factor. The writer did not talk to enough representatives of mill managements to know whether they add the usual arguments about the personal joys and community benefits of home ownership, but interested observers are doing this rationalizing for them. Citizens of the towns affected are more realistic. Inquiries of persons in half a dozen towns and villages as to the reasons for the local sales elicited answers that were all variants of "They got tired paying taxes on the property."

Under such sales 10% of the purchase price must be deposited at the time. A large proportion usually up to 75% can remain on mortgage. In other types of selling, where employees are usually given priority over the general public, the financing often done through cooperative or savings banks, the mill sometimes holds the mortgage for, say, three years or until 60% of the purchase price is paid and the property is eligible for bank loans.

Prices in recent years, according to one well-informed observer, have averaged between $2,000 and $2,500 per property including many double and some multiple family dwellings. This, of course, includes a wide range within a group belonging to a given mill and even wider between different mill holdings. For example, one group of 130 double houses on fair-sized lots, nearly all six rooms per family with electricity, toilet and bath, averaged $1,592 per dwelling or $796 per family unit. Another of 245 dwellings (60% single, 30% double and the balance multiple

tenements) of rather wide variety in number of rooms and size of lots, equipped with electricity, gas, bath and heating unit, averaged close to $3,400 per dwelling, or about $2,200 per family unit.

In the case of holdings which are mingled with non-mill properties and which are not too uniform, or "mill-village" looking, prices have approximated general values in the area. When the houses are compactly grouped in more or less uniform rows they have sold apparently below their real values.

In no case upon which information was received were sales limited to employees; auction sales, of course, were open to all bidders. Employees have bought from 60 to 100% of the one and two family dwellings, but only occasionally have they purchased multiple tenements. Local investors have been the chief purchasers of such properties, one to five to a buyer. Some are bought by speculative traders but such sales are apparently limited because of interest and active bidding by potential owner-occupants and permanent investors. On the other hand, a few mills have sold the whole lot of properties to such a trader for resale, just as in the earlier period an occasional mill sold out to a real estate company.

IN THE MAIN it appears that so far the sales have worked out satisfactorily. A more thorough study than was feasible at this time would be necessary to ascertain the proportion of foreclosures and resales, but competent observers say they have been few. All persons interviewed testified that the new owners were making considerable improvements, particularly in matters of outward appearance. All agreed that rents for investment properties and for the extra-family quarters of owner-occupied dwellings have been raised above the previous mill rates.

For the southern observer and mill owner there are some obvious contrasts and comparisons. The decentralization of industry permitted by hydroelectric transmission, the practice of locating mills on the edge of existing towns and the maturity of the industry in the South combine to make it unlikely that business and mill expansion will need the space of more than an occasional dwelling property. Demolition for more remunerative uses, as in the earlier stages of New England textile city growth, therefore is out. The southern mill policy of giving employees first choice at the houses, together with local housing shortages which result in their signing up for the purchase, prevents wholesale acquisition by real estate companies at the outset. The dissatisfaction with a house, opportunity "to cash in," or inability to keep up the payments over the long period common in southern sales may eventually result in many of the houses being owned by investors rather than the occupants. Especially will this be true if rents rise or wages increase enough to make higher rents possible. Housing surveys all over the United States have indicated that the inevitable result is unsatisfactory housing. Slum conditions can exist in a village as well as in a crowded city. Southern conditions and even villages may have to establish sanitation and maintenance standards.

The recent sales in New England, being so nearly simultaneous with those of the South, offer little help. The auction principle would eliminate the present disadvantage whereby a buyer has practically no choice except to take the house he happens to be living in. It probably would result in rather different prices from those which are being set: in some villages the houses would bring considerably more; in out-of-the-way villages of old, flimsy cottages with no modern improvements they would probably bring less.

The auction plan has certain disadvantages for the southern situation. Low wages and long dependence on the mill for housing mean that few employees have the savings to make a sizeable cash deposit, so that financing would have to be about as complete as it is at present. If bidding were open to the public, outsiders would probably get the desirable properties. If limited to employees, a not very practicable arrangement, they would simply bid against each other.

Whatever the process and the outcome in the South, for once the textile industry of this region is on its own. It must try to work out the new problem in terms of its own situation with only some negative suggestion from the experience of New England. Because of its importance to hundreds of communities and to half a million southerners, it is to be hoped that the process will combine wisdom and humanitarianism.

Vinyon Enters Consumer Field

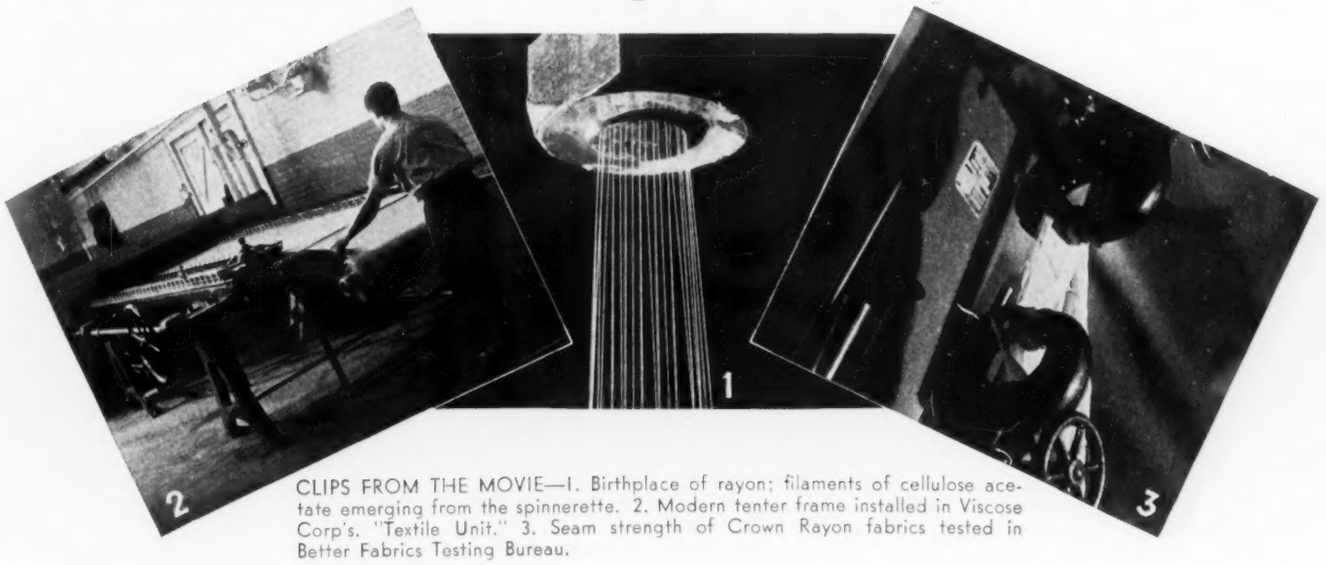
VINYON will make its bow to the public on Feb. 1, with the introduction of a line of women's gloves, according to announcement by American Viscose Corp. The gloves, which will sell at about $1 a pair, are made from a two-bar tricot-knit fabric, resembling heavy silk in appearance and texture, produced by Crocetta Bros., Gloversville, N. Y., and illustrated at right.

Because of Vinyon's unique properties, many interesting qualities are claimed for these new gloves. They are said to be extremely easy to keep clean. Since the yarn is non-absorbent, dirt and stains remain on the surface, from which they can usually be removed by simple washing in plain soap solution. Even stubborn stains, like ink and tobacco, can be removed easily, without damage to fabric, by means of bleaching agents or ink eradicators.

Since Vinyon does not absorb moisture, the gloves do not shrink upon washing, and the makers recommend, therefore, that they be purchased to exact size, with no allowance for shrinkage. They should be washed on the hands in ordinary, luke-warm soap solution. When wiped with a towel and hung to dry, they are ready to wear again in 30 to 40 min.

Previous uses for Vinyon have been confined entirely to industrial fields, including such applications as filter cloths, anode bags, and industrial sewing threads. The yarn's high strength, both wet and dry, and its ability to resist mineral acids and alkalis have made it particularly applicable in the chemical and process industries. However, various types of Vinyon fabrics for consumer use have been produced experimentally.

Movie Calls Rayon New Frontier



CLIPS FROM THE MOVIE—1. Birthplace of rayon: filaments of cellulose acetate emerging from the spinnerette. 2. Modern tenter frame installed in Viscose Corp's. "Textile Unit." 3. Seam strength of Crown Rayon fabrics tested in Better Fabrics Testing Bureau.

"RAYON—A New Frontier of Progress," a new motion picture just completed by American Viscose Corp., had its premiere showing in New York last month before 200 representatives of the press and trade associations. With pioneering as its theme, the film recounts the amazing success story of rayon from modest beginnings not 30 years ago. The film states that the first American rayon fiber was produced for use as filament in Edison's early incandescent lamps. Its place as a textile fiber was first recognized commercially in the United States in 1911 when the Marcus Hook plant of American Viscose Corp. was built.

A glimpse of each of the corporation's seven plants is shown, concluding with the recently completed plant at Front Royal, Va. Production processes of viscose yarn, acetate, Vinyon and staple fiber are shown, with close-ups where helpful to make the details clear. The picture high-lights the Textile Unit at Marcus Hook and closes with a glance at the many products involving use of Crown-Tested Rayon fabrics.

This film is available for private and public showings. It is of the sound-on-film type, 30 minutes in length, in both 16mm. and 35mm. It was produced by Caravel Films, Inc., N. Y. C.

Labor Outlook in Wool Industry

From New England office,
TEXTILE WORLD

PRODUCTION in woolen and worsted plants, stimulated by orders from the Government for great quantities of uniform cloth, has lately aroused advocates of wage increases to action; and there is good reason to expect vigorous discussion of this subject in mill circles as the winter advances. At this writing employment is running high compared with a year ago, but there does not yet appear to be any marked shortage of labor. Here and there, new contracts with unions are being negotiated, and there is increasing pressure apparent for wage increases, unaccompanied, as yet, by much evidence of unrest.

The mere volume of the business on the books is not a fair indication of its economic value to producers. Leading authorities point out that civilian business is in many cases unprofitable, besides being sub-normal. As for defense orders, profit margins vary considerably, in typical cases from 1% to perhaps 8 or 9%, with woolens having the edge over worsteds. Average weekly wages in the woolen and worsted industry, adjusted by the purchasing power of the dollar, were $25.38 in October, 1940, against $22.16 in October, 1939, and the trend in purchasing power has been gradually upward of late.

The number of competitors bidding for Government business early in December on the 13,000,000 yd. order was 77, although some manufacturers look upon profit possibilities as marginal, while others concede they will "make money" out of the defense demand. Returns to stockholders for some time have been absent, far from satisfactory, or only moderate, depending on plants and conditions. The taxation outlook is an obstacle to be surmounted.

In late December, the Stillwater Worsted Mills announced a 10% wage advance. At this writing important negotiations are pending involving a group of large mills whose contract with the union is of far-reaching significance. Rightly or not from the economic standpoint, mill labor sees in large Government orders increases in revenue which appear to be sufficient for sharing along the line. Already some headway is being made by union representatives in a campaign to increase the strength of their membership rolls on the expectation of higher pay. It is probable that the wage situation will become more unsettled in the near future, and at this stage it is difficult to forecast the effect of patriotic appeals like the President's address of Dec. 29 upon the rank and file. Frank consideration of conditions in labor conferences with individual companies will doubtless go a long way toward stabilizing discussions and maintaining production in the months ahead.

What is done *outside* the industry will be a stronger determining factor than events *inside*. There has been no wage up-trend in other branches of textiles, nor has there been any compelling rise in the cost of living.

A $5,000,000 Modernization Job

At Bibb Mfg. Co.'s ten plants; a study in management policy

LAST SUMMER Bibb Mfg. Co., Macon, Ga., made important news by announcing that it was planning to spend immediately $2,225,000 in modernizing its plants and equipment. This was the second story originating in Macon recently to create a flurry in the industry, the first being announcement of the now nationally known heat-resistant (H-R) tire cord.

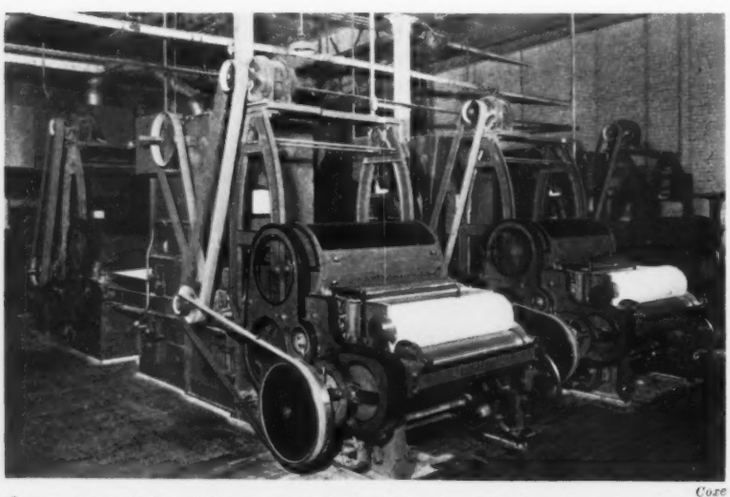
These two stories were sensational, but what lies back of them is far more interesting. To begin with, Bibb produced over 77,000,000 lb. of cotton yarn and other textiles during 1940 and at the same time showed a net profit of $2,073,109 or $10.36 per share. In 1929 the production was 65,000,000 lb. Between these two years Bibb has consistently paid substantial dividends.

There are four major reasons why Bibb has succeeded. Two of the reasons are cited in the first paragraph—modernization of machinery and equipment and continuous research. The other two, equally important, are an aggressive merchandising and advertising program and a sound industrial relations set-up. These four points may sound rather trite as they could be applied to many organizations; but the important thing is that these factors mean something concrete at Bibb—and there are black and white figures to prove it.

Take the modernization program, for instance. An outlay of $2,225,000 for new equipment sounds like a lot of money these days, but such expenditures are not entirely unknown in the industry. The thing that makes the Bibb program outstanding is that this expenditure does not represent a desperate effort to rehabilitate an old, rundown mill which has had no mechanical attention for 30 or 40 years. The present modernization is just one phase of a continuing program which goes on all the time. In fact, $2,500,000 was spent in 1934, 35, and 36—a total of nearly $5,000,000 for new equipment within the last six years! And back of that are other large expenditures which have kept Bibb modern during the many years of its existence.

MODERNIZATION TECHNIQUE. The way Bibb handles its modernization is something like this. All during the year the general superintendent notes equipment which needs revamping or replacing, and keeps his eyes open for new machinery developments designed to increase manufacturing efficiency. At intervals, he visits the machinery manufacturers and studies new models in advance of sale. When something looks good, he buys a sample to test under operating conditions. If it increases efficiency, improves the product, or reduces cost, the company includes in its next appropriation as many of the machines as it needs.

Often machines are bought which do not offer any tangible saving in pro-



Coxe

One corner of the picker room at Columbus, where 27 Saco-Lowell pickers are being installed as part of the plan to modernize opening and picking departments throughout the Bibb plants. The Columbus opening room has been equipped with three breaker pickers, each fed by six F-7 feeders. Back of the pickers are three cleaning units, two being the new No. 12 Saco-Lowell machines and one a Centrif-Air device. There are no hoppers feeding into these pickers, chutes with automatic control being utilized. Air filters have been installed so that the room can be heated and humidified. In the carding departments additional Saco-Lowell cards have been added at the Columbus plant, and continuous strippers are being applied to cards in use there and elsewhere. Saco-Lowell conventional four-roll drawing (cork top roll) is being installed in Payne Mill, No. 2, Porterdale, Osprey and Columbus. With the exception of the Columbus installation, new drawing is being installed to improve quality of product and not to increase production. Fly frames, most of which are relatively new, are being overhauled and rearranged in many of the plants

Over 100,000 spindles are located on one floor at the Columbus plant—said to be the largest spinning room in the world. During the earlier phase of modernizing, 260,000 spindles were changed over to long draft. Recently, a large number of new Saco-Lowell frames were installed in the coarse-yarn plants. The frames, with 240 spindles each, range up to .5-in. gage and many of them are equipped with $3\frac{1}{2}$-in. rings and ball-bearing, paper-tube spindles. Individually driven by Allis-Chalmers motors, the frames are equipped with variable-pitch sheaves which make it possible to change pulleys in a few

duction costs, but are considered a good investment because they improve the quality of the product. Further, the superintendent does not confine his investigation of new equipment to cotton-mill equipment. For example, not long ago, a rayon yarn reel looked rather interesting; accordingly, the mill bought a sample and found that it could be used advantageously in cotton manufacturing.

Bibb does not believe that a machine has to be completely worn out before it is replaced. In one of the plants, spinning equipment purchased new in 1935 and 1936 was recently replaced with more modern large-package equipment.

The present modernization program, instituted in June, 1940, is largely confined to the opening and picking departments, although a great deal of miscellaneous work is being done throughout the plant. The major part of the 1934–36 appropriation of $2,500,000 was spent in improving spinning equipment, which included changing over 260,000 spindles to long draft. Both programs are aimed at greater efficiency and higher quality in all departments.

Some of the modern equipment installed in various departments is shown in the accompanying illustrations and on the cover of this month's issue. Among other equipment recently installed, but not mentioned in the captions, are included General Elevator Co. automatically controlled elevator, Grinnell sprinkler system in new buildings at Porterdale, Carrier air conditioning system in main office building, American Moistening Co. air-washing equipment, and Acme Steel Co. strapping equipment in the shipping department.

New Saco-Lowell pickers are being installed in the Columbus, Ga., plant. Continuous strippers are being added to cards, drawing is being reworked, fly frames are being revamped, and much machinery is being rearranged to give better operating conditions. Considerable twisting, winding, finishing, and special equipment is being added to facilitate manufacture of Bibb's H-R cord. Air conditioning and lighting will be modernized beginning in 1941.

Bibb Mfg. Co., through research, is always striving to improve its present products and to discover new products. There is a laboratory at the Columbus mill equipped with instruments to explore fiber characteristics, as well as with special machinery for making test runs on promising developments. This is quite aside from control laboratories which are a part of each plant. But research is not confined to this laboratory. Each key man is a "research specialist," and many of Bibb's most valuable discoveries have come directly out of the plants, rather than from the laboratory.

Bibb's research program can be illustrated by telling how the company's heat-resistant (H-R) tire cord came into being. A research worker in the Columbus laboratory one day put a piece of yarn under a high-powered microscope after it had been run through an experimental process. He did not see what he was hoping to find, but he did see something far more exciting. The lab worker knew that he had found something entirely new in the field of fiber processing. Further experiments showed that cord made from fibers processed in this way lost only 6 to 8% of its strength when bone dry, as compared with 22% loss in ordinary cord. Also it retained most of its elasticity.

Eventually, the H-R cord was perfected and samples were sent to rubber companies for testing under operating conditions. Tires made from this cord (retreaded at 40,000 and 70,000 miles) lasted over 100,000 miles on oil trucks running through Death Valley, considered the hardest service in the world on tires. The same type of tires, made with ordinary cord, lasted only 10,000 miles, and less, on the run.

NEW PRODUCTS FROM RESEARCH. This was just the beginning of a series of products based on the heat-resistant process. The life of V-belts used in power transmission has been increased tremendously—in some instances as much as 3,000%. A cotton parachute

minutes as compared with a former 2½-hr. operation. Parks-Cramer overhead cleaning in the various spinning rooms is being revamped. In addition to the Allis-Chalmers motors used to drive the new spinning frames, a large number of miscellaneous motors recently installed include General Electric, Westinghouse, Crocker-Wheeler, Reliance, and Louis Allis. A Logan Co. conveyor system is being put into operation. Bobbins for the paper-tube spinning were secured from American Paper Tube Co.; Terrell Machine Co. supplied wooden bobbins

Coze

During the last three years the dyehouse has been doubled in size and much stainless-steel equipment installed. A large number of new Morton Machine Works and Obermaier dyeing machines make possible the dyeing of 50% more raw stock than three years ago and 65 to 70% more yarn in the package. Reliance glass-wound motors are used where fumes and splashing are particularly bad. Other equipment includes American Machine & Metals extractors and a Shephard Niles hoist. Air compressors were secured from Pennsylvania Pump & Compressor Co. and Ingersoll-Rand Co.

harness and a gunner's belt have been developed for the Army to replace imported linen materials. An improved hose is made from the cord. Other new products, not related to the H-R cord, include a cotton broom twine designed to replace flax twine and a cotton twine for tying parcels in the post-office. Carpet warps are now available on tubes, and wrapping twine can be had on cones as results of Bibb pioneering.

Through research Bibb continually is expanding its line of products to fill industrial and consumer needs. Yarns today are being produced for purposes as varied as knitting, carpet weaving, belt manufacturing, trimming, plush weaving, and countless specialties. Fabrics are made for use in rubber manufacturing and for other industrial purposes, and include laundry nets made on specially designed looms to produce a patented construction. Duck looms have been set up to supply the Government with material for defense purposes. A large number of new wide sheeting looms has been installed in the Columbus plant.

Volume of business transacted by Bibb Mfg. Co. ranges from $15,000,000 to $25,000,000 annually, varying with the raw cotton market since the company utilizes up to 175,000 bales of cotton each year. Volume of sales has been maintained and increased by means of an aggressive merchandising department, one of the early pioneers in selling direct to users of the company's product. Efforts of thirteen full-time salesmen located at strategic points throughout the country are supplemented with an advertising program aimed at both the jobber and at the ultimate consumer of Bibb products.

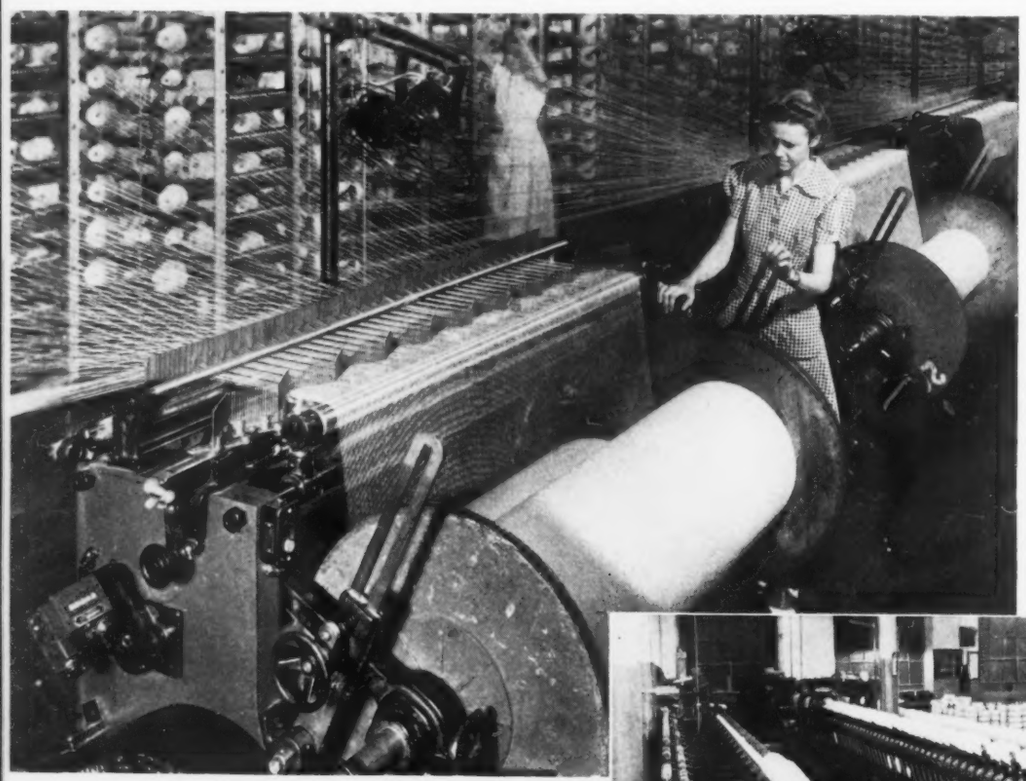
The sales department, like the research department, is somewhat unorthodox, in that it is composed of two distinct sections which work along parallel lines. The sales department proper concentrates all its efforts towards getting orders on the books. A sales-promotion department handles all advertising, direct mail, new uses, etc.

Last year, approximately $100,000 was spent by the company to make "Bibb the first name in textiles." (This slogan is part of the trademark.) Full-page advertisements were taken in national publications and trade papers either announcing new products or simply describing The Bibb as an institution. Numerous booklets, calendars, and novelties are mailed out directly to customers and prospects continuously. Sometime ago samples of wrapping twine were sent to 1,500 individual customers and to 5,000 potential users of the twine. The idea was to encourage users of twine to ask the jobbers and wholesalers for Bibb twine specifically. The new H-R cord is sold directly to tire manufacturers, but reprints of advertisements describing this cord were sent to 30,000 owners of eight or more trucks in order to encourage them to buy tires made from Bibb cord. In addition, over 100,000 booklets describing the new cord were mailed out, along with a great deal more promotion material.

Sound employer-employee relations have always marked the management of Bibb Mfg. Co. "The Bibb spirit" and "the Bibb family" have long been vital by-words in the industry. However, in recent years the firm has attempted to go further and develop a scientific approach to its entire industrial-relations problem. Bibb realizes—with its 7,200 human variables—that it is faced with a tremendous job in coordinating the efforts of this huge group of workers. It also realizes that at least 25,000 persons are directly dependent on Bibb for a livelihood.

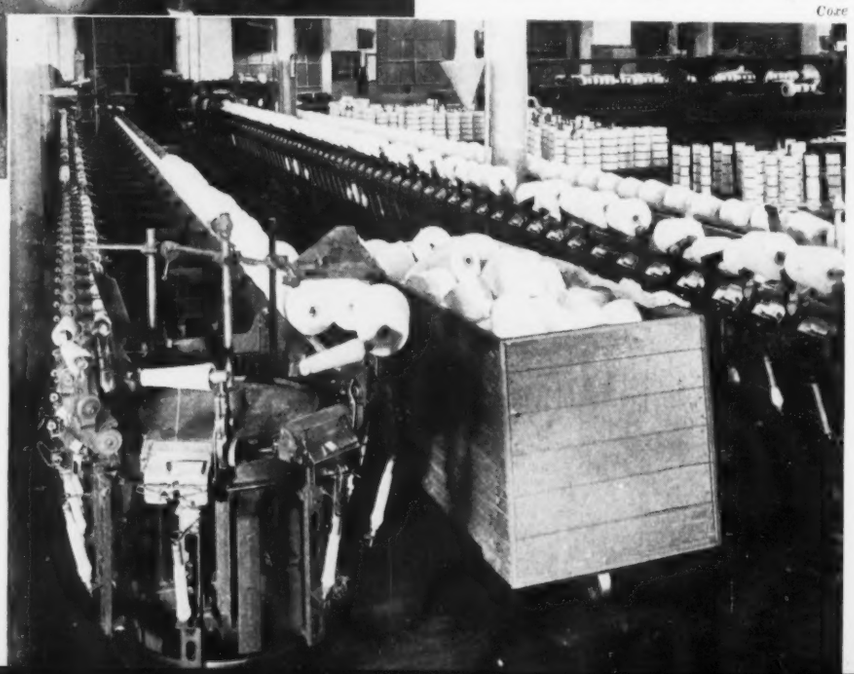
Major activities of the present industrial relations program, begun about three years ago, include: (1) operation of a personnel department which handles employment and complaints, (2) a learner training program, and (3) a foreman training program.

The first aim of the mill is to insure the financial security of the employee



Coxe

New Cocker and Barber-Colman high-speed warpers have been installed in the Columbus plant



Coxe

New Abbott winders and spoolers are being installed in several of the plants; Foster and Universal equipment has been added where needed. Photograph on cover of this issue shows one of large-package twisters company installed to balance production. Most of the newest machines are Saco-Lowell, although in recent years some Brownell gear-driven twisters have been installed for producing certain types of cord

in every way possible. This is approached by teaching each worker more than one job so that he can be shifted to other departments during off seasons and by building up a fund of information about each employee that enables the personnel director to fit him into the job which suits best both the worker and the company.

There are employment offices in each mill community under the direction of the personnel director, who makes headquarters at Macon. These offices gather and record information about applicants by means of personal interviews and references, and file these data on special application blanks. The records are cumulative and are added to or checked on from time to time.

After the newcomer has worked a reasonable length of time, the personnel director follows up his case through efficiency reports, and interviews with the worker and with his direct superior. Upon leaving the company, regardless of the reason, each employee receives a final interview before drawing his last pay.

At regular intervals separations are compiled and analyzed according to whether they are lay-offs, discharges, or quits. At the same time the personnel director, with the aid of the cumulative record-cards, studies employee attitudes, satisfactions, dissatisfactions, etc., and interprets these findings to the management.

A part of the time of the personnel director is available for the individual employee to discuss personal problems and grievances which he cannot straighten out in the plant.

Bibb is making an effort to even out employees' earnings over the year by allowing a worker on short time to make up the deficiency at a standard rate of pay while learning a new job.

For new employees there are regular learner classes, such as the one at Columbus described in the January, 1940, issue of TEXTILE WORLD.

An organized foreman-training program is getting underway at Bibb. Regular discussion meetings are held for the purpose of analyzing problems based on every-day operation, and the mill subscribes to a number of management services and trade papers which are distributed to key men. Occasionally, outside industrial relations specialists are invited in to speak before the mill men. Motion pictures, slides, and other visual aids are used to get ideas across to the foremen.

The company has followed a well-defined policy of welfare work for many years among its employees both White and Negro. Attractive cottages are available at nominal rents, located on paved sidewalks and served with water, gas, electricity, and modern sewers. In all the mill communities there are modern schools, playgrounds, swimming pools, gymnasiums, community centers, health and nursing services. For many years group life insurance has been carried for the employees.

Col. William D. Anderson, president of Bibb Mfg. Co. (center); Scott Russell, executive vice-president (left); James H. Porter, vice-chairman of the board (right)

ORGANIZATIONAL HISTORY. Bibb Mfg. Co., operating ten different plants in Macon, Columbus, and Porterdale, has a present capitalization of $20,000,000. Original capitalization in 1876 was $30,000. Founders were John F. Hanson and Isaac N. Hanson, of Macon, and Hugh Moss Comer, of Savannah, Ga. From the beginning, progress was rapid and after two years of operation the company purchased Macon Mfg. Co. From 1881 to 1898 the organization acquired Taylor Mfg. Co., of Reynolds, Ga., by purchase and Porterdale Mill, Porterdale, Ga., by stock transfer. It is notable that in April, 1898, a stock dividend of $900,000 was declared. The company erected a 20,000-spindle mill in Columbus, Ga., during 1900, following purchase of the Columbus Power Co., of that city. Payne Cotton Mill, Macon, was secured by stock transfer in 1904.

In 1907, when the shareholders met to accept a new charter, Col. William D. Anderson was appointed secretary of the meeting.

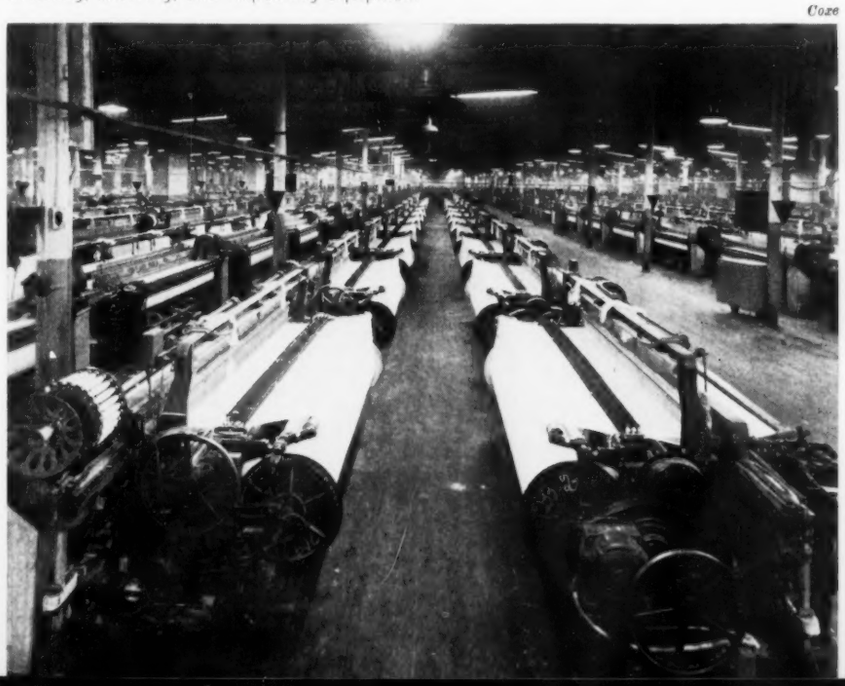
Colonel Anderson became president in 1920 and has served since that date with the exception of nine months, during which his son, the late William D. Anderson, Jr., was president. Stricken with pneumonia, the son died in 1937, whereupon his father again took over the presidency. In April, 1938, Scott Russell, long legal counsel for the company, was elected executive vice-president and since has taken an active part in the management.

James H. Porter, vice-chairman of the board and son of the late O. S. Porter, founder of Porterdale, has contributed a great deal to the success of the company.

Bibb's growth and success may be summed up in the company's motto. It is simply "Keep on Keeping on."

A large number of new Draper XL looms for wide sheeting was recently installed at Columbus. Heavy duck looms, out of use for sometime, have been put into production to fill defense orders. Material from these wide looms is finished with 100-in. Curtis & Marble brushing, shearing, and inspecting equipment

Coxe



Spreading Swiss Rib Fabrics

Useful tables aid in obtaining correct cloth width for minimum shrinkage

By F. J. QUILITZSCH

9 CUT

Yard Numbers

Machine diameter	8	10	12	14	16	18	20
7″	5	4½	4	4	3½	3½	3
8″	5½	5	4½	4½	4	4	3½
9″	6½	6	5	5	4½	4	4
10″	7	6½	6	5½	5	4½	4½
11″	8	7	6½	6	5½	5	5
12″	8½	7½	7	6½	6	5½	5½
13″	9	8	7½	7	6½	6	6
14″	9½	9	8	7½	7	6½	6
15″	10½	9½	8½	8	7½	7	6½
16″	11½	10	9½	9	8	7½	7
17″	12	11	10	9½	8½	8	7½
18″	13	11½	10½	10	9	8½	8
19″	13½	12	11	10½	9½	9	8½
20″	14	12½	11½	11	10	9½	9
21″	15	13½	12	11½	10½	10	9½
22″	15½	14	12½	12	11	10½	10
23″	16	14½	13	12½	11½	11	10
24″	17	15	14	13	12	11½	10½
26″	18	16	15	14	13	12	11½
28″	20	17½	16	15	14	13	12

10 CUT

Yarn Numbers

Machine diameter	10	12	14	16	18	20	22
7″	5	4½	4	4	4	3½	3½
8″	6	5	5	4½	4	4	4
9″	6½	6	5½	5	4½	4½	4½
10″	7	6½	6	5½	5	5	5
11″	8	7	6½	6	5½	5½	5½
12″	8½	7½	7	6½	6	6	6
13″	9	8½	7½	7	6½	6½	6
14″	10	9	8	8	7	7	6½
15″	10½	9½	9	8½	8	7½	7
16″	11	10	9½	9	8½	8	7½
17″	12	11	10	9½	9	8½	8
18″	12½	11½	11	10	9½	9	8½
19″	13½	12	11½	10½	10	9½	9
20″	14	13	12	11	10½	10	9½
21″	15	13½	12½	11½	11	10½	10
22″	15½	14	13	12	11½	11	10½
23″	16	15	13½	13	12	11½	11
24″	17	15½	14	13½	12½	12	11½
26″	18	16½	15½	14½	13½	13	12
28″	19½	18	16½	15½	14½	14	13

13 CUT

Yarn Numbers

Machine diameter	22	24	26	28	30	32	34
7″	5	4½	4½	4	4	4	3½
8″	5½	5	5	4½	4½	4½	4
9″	6	6	5½	5	5	5	4½
10″	7	6½	6	5½	5½	5½	5
11″	7½	7	7	6½	6	6	5½
12″	8	7½	7½	7	6½	6½	6
13″	8½	8	8	7½	7	7	6½
14″	9	9	8½	8	7½	7½	7
15″	10	9½	9	8½	8	8	7½
16″	10½	10	9½	9	9	8½	8
17″	11	11	10	10	9½	9	8½
18″	12	11½	11	10½	10	9½	9
19″	12½	12	11½	11	11	10	9½
20″	13	13	12	12	11½	11	10
21″	14	13½	13	12½	12	11½	10½
22″	14½	14	13½	13	12½	12	11
23″	15	14½	14	13½	13	12½	11½
24″	16	15	14½	14	13½	13	12
26″	17	16½	16	15	14½	14	13
28″	18½	18	17	16½	16	15½	14

14 CUT

Yarn Numbers

Machine diameter	26	28	30	32	34	36	38
7″	4½	4	4	4	3½	3½	3½
8″	5	5	4½	4½	4	4	4
9″	5½	5½	5	5	5	4½	4½
10″	6	6	5½	5½	5½	5	5
11″	7	6½	6	6	6	5½	5½
12″	7½	7	7	6½	6½	6	6
13″	8	7½	7½	7	7	6½	6½
14″	8½	8	8	7½	7½	7	7
15″	9	9	8½	8	8	7½	7½
16″	10	9½	9	9	8½	8	8
17″	10½	10	9½	9½	9	8½	8½
18″	11	10½	10	10	9½	9	9
19″	11½	11	11	10½	10	9½	9½
20″	12	12	11½	11	10½	10½	10
21″	13	12½	12	11½	11	11	10½
22″	13½	13	12½	12	11½	11½	11
23″	14	13½	13	12½	12	12	11½
24″	14½	14	13½	13	12½	12½	12
26″	16	15	14½	14	13½	13½	13
28″	17	16½	16	15	14½	14½	14

A SERIES OF TABLES to aid knitters in determining the correct cloth width to which plain 1 x 1 rib underwear fabrics should be spread to minimize shrinkage was presented in the November, 1939, issue of TEXTILE WORLD. In response to requests which have been received from readers for similar tables for other types of knit goods, Mr. Quilitzsch has developed the accompanying series covering Swiss rib fabrics.

Following is an example showing the use of the tables: Suppose it is desired to determine what size to spread fabric knit on a 16-in., 12-cut machine, with 20/1 yarn. First, look down the column headed machine diameter, on the 12-cut table, to the 16-in. diameter; then look horizontally across to the column headed 20. This will give the size to spread the fabric which, in this case, measures 9½ in.

11 CUT

Yarn Numbers

Machine diameter	14	16	18	20	22	24	26
7″	4½	4½	4	4	4	3½	3½
8″	5	5	4½	4½	4	4	4
9″	6	5½	5	4½	4½	4½	4
10″	6½	6	5½	5½	5	5	4½
11″	7	6½	6	6	5½	5½	5
12″	8	7	7	6½	6	6	5½
13″	8½	8	7½	7	6½	6½	6
14″	9	8½	8	7½	7	7	6½
15″	10	9	8½	8	7½	7½	7
16″	10½	10	9	8½	8	8	7½
17″	11	10½	10	9	8½	8½	8
18″	12	11	10½	9½	9	9	8½
19″	12½	11½	11	10	9½	9½	9
20″	13	12	11½	11	10½	10	9½
21″	14	13	12	11½	11	10½	10
22″	14½	13½	13	12	11½	11	10½
23″	15	14	13½	12½	12	11½	11
24″	16	15	14	13	12½	12	11½
26″	17	16	15	14	13½	13	12½
28″	18	17	16½	15	14½	14	13½

12 CUT

Yarn Numbers

Machine diameter	18	20	22	24	26	28	30
7″	4½	4½	4	4	4	3½	3½
8″	5	5	4½	4½	4	4	4
9″	6	5½	5	5	4½	4½	4½
10″	6½	6	6	5½	5	5	5
11″	7	6½	6½	6	6	5½	5½
12″	7½	7	7	6½	6½	6	5½
13″	8	7½	7½	7	7	6½	6
14″	9	8	8	7½	7½	7	6½
15″	9½	9	8½	8	8	7½	7
16″	10	9½	9	8½	8½	8	7½
17″	11	10	10	9½	9	8½	8
18″	11½	10½	10½	10	9½	9	8½
19″	12	11	11	10½	10	9½	9
20″	12½	11½	11½	11	10½	10	9½
21″	13	12	12	11½	11	10½	10
22″	14	13	12½	12	11½	11	10½
23″	14½	13½	13	12½	12	11½	11
24″	15	14	13½	13	12½	12	11½
26″	16	15	14½	14	13½	13	12½
28″	17½	16	15½	15	14½	14	13½

15 CUT

Yarn Numbers

Machine diameter	30	32	34	36	38	40	42
7″	4	4	4	3½	3½	3½	3½
8″	5	5	4½	4½	4½	4	4
9″	5½	5½	5	5	5	4½	4½
10″	6	6	5½	5½	5½	5	5
11″	7	6½	6½	6	6	5½	5½
12″	7½	7	7	6½	6½	6	6
13″	8	7½	7½	7	7	6½	6½
14″	8½	8	8	7½	7½	7	7
15″	9	9	8½	8½	8	8	7½
16″	10	9½	9	9	8½	8½	8
17″	10½	10	9½	9½	9	9	8½
18″	11	10½	10½	10	9½	9½	9
19″	11½	11	11	10½	10½	10	9½
20″	12	11½	11½	11	11	10½	10
21″	13	12½	12	12	11½	11	10½
22″	13½	13	12½	12	12	11½	11
23″	14	13½	13	13	12½	12	11½
24″	15	14	13½	13½	13	12½	12
26″	16	15	14½	14	13½	13	12½
28″	17	16½	16	15½	15	14½	14

16 CUT

Yarn Numbers

Machine diameter	36	38	40	42	44	46	48
7″	4	4	4	4	3½	3½	3½
8″	5	5	5	4½	4½	4½	4
9″	5½	5½	5	5	5	5	4½
10″	6	6	5½	5½	5½	5½	5
11″	6½	6½	6	6	6	6	5½
12″	7	7	7	6½	6½	6½	6
13″	8	7½	7½	7	7	7	6½
14″	8½	8	8	7½	7½	7½	7
15″	9	8½	8½	8	8	8	7½
16″	9½	9	9	9	8½	8½	8
17″	10	10	9½	9½	9	9	8½
18″	10½	10½	10	10	9½	9½	9
19″	11	11	10½	10½	10	10	9½
20″	12	11½	11	11	10½	10½	10
21″	12½	12	12	11½	11	11	10½
22″	13	12½	12½	12	11½	11	11
23″	13½	13	13	12½	12	11½	11½
24″	14	13½	13½	13	12½	12	12
26″	15½	15	14½	14	13½	13	12½
28″	16½	16	15½	15	14½	14	14

Engineers Check on Progress

Discuss water treatment, waste disposal, drying, and use of anti-friction bearings

LATEST DEVELOPMENTS in purification of boiler-feed and process water, disposal of mill wastes, drying equipment, and application of anti-friction bearings were considered at the annual meeting of the Textile Division, American Society of Mechanical Engineers, held Dec. 4, in New York. Presentation of papers on each of these subjects was followed by prepared and extemporaneous discussions. At a business session preliminary plans were made for the spring meeting to be held in Greenville, S. C., during the week of the Southern Textile Exposition, and the following officers were chosen for the ensuing years: A. D. Asbury, chairman; F. L. Bradley, vice-chairman; W. B. Heinz, secretary; W. W. Stark, chairman of program committee.

In a paper on water treatment prepared by Sheppard T. Powell and H. E. Bacon, consulting chemical engineers, and presented by T. C. Bozar, it was stated that 4,000 textile establishments use water for process work. Suggested tolerances for quality of water have been set up; if impurities above these tolerances are present, corrective treatment of the water becomes profitable. These tolerances in parts per million are shown in the accompanying table.

Both iron and manganese are frequently present in water and can be removed by precipitation of the hydrate at high pH, by oxidation to an insoluble form, or by absorption. To treat water of the hardness encountered in textile areas, zeolite softeners usually are employed. Recently developed zeolites have a much higher exchange value and higher flow rates than older types. To remove turbidity and color, chemical treatment, coagulation, settling, and filtering are resorted to; a new development is a method of retarding the settling of the precipitate and thus obtaining more complete precipitation.

Of 63 new boilers installed in textile mills between January, 1936, and September, 1940, 55 are high-pressure boilers (over 250-lb.). This trend toward high pressures makes treatment of boiler feed water more important. Again, increasing use of air-conditioning equipment calls for water which is noncorrosive and free from odors and for control of slime.

In a discussion of latest developments in water treatment, S. B. Applebaum, vice-president, Permutit Co., stated that an additional advantage of the new carbonaceous zeolite is that it can be regenerated with sulphuric acid, thus making it possible to reduce hardness and alkalinity at the same time. This type of zeolite is particularly good for use in feed-water treatment and in textile mills where process steam is used. In the textile industry the Spaulding precipitator does not appear to be important in softening, but has been applied in removal of turbidity, color, and algae.

TREATMENT OF TEXTILE WASTES was discussed in a paper presented by Prof. Harold B. Gotaas, of the University of North Carolina. According to Professor Gotaas, textile-waste treatment is one of the most complex problems in the field of industrial-waste treatment because seldom are two textile wastes alike in character; therefore, they may require quite different treatment processes.

Where it is possible to use a biological process, it will usually prove to be most economical for textile-waste treatment. Textile wastes may be satisfactorily treated in conjunction with domestic sewage by a biological process, but several factors must be carefully controlled. The equalization or averaging of wastes and the regulation of their discharge into the domestic sewage by the use of equalization tanks and discharge devices are the most important procedures in maintaining a relatively uniform waste at the treatment plant.

Although equalization and regulation of waste discharge are essential, they do not completely solve the problem if the volume ratio between textile waste and domestic sewage is such that the sewage does not neutralize the toxic properties of the waste. This condition requires the additional use of one or a combination of the following treatments preliminary to biological purification: (1) partial preliminary chemical treatment to neutralize strongly acid or alkaline waste or to remove toxic materials; (2) chemical precipitation of the sewage-textile-waste mixture to reduce the load on the biological process; and (3) preliminary aeration to oxidize a mixture containing large quantities of reducing chemicals or a highly septic mixture before biological treatment.

Experimental investigations and the experience of some municipal sewage-treatment plants have shown that textile-waste-sewage mixtures can be satisfactorily treated by the activated sludge or the trickling filter processes if the character of the mixture and the process are properly controlled. The activated-sludge process will remove the decomposable organic matter and the color, producing a highly purified effluent. It will not withstand the shock of sudden variations in the character of the waste, large amounts of toxic substances, or change in the pH value. The trickling filter will remove the organic material, giving good purification. However, the filter does not remove the color due to dyes nearly so well as does the activated-sludge process, when the normal treatment time for each process is used.

The practicability of reducing the amount of waste within the mill and of recovering byproducts should be carefully investigated prior to adopting treatment methods and constructing treatment works. Reduction in the amount of liquid wastes may be effected by re-using certain waste liquors from one operation to make the bath for another, by more completely exhausting strong processing solutions, and by re-using certain wastes after settling and filtering. Considerable reduction in amounts of wastes can be achieved by using counter-flow action and modern equipment.

Except for a few materials, recovery of byproducts in the textile industry has not been economical when the quantity of wastes was kept at a mini-

TOLERANCES FOR IMPURITIES IN WATER FOR VARIOUS TEXTILE USES

	General	Dyeing	Wool Scouring	Rayon Manufacture
Turbidity	5	5	—	0-0.1
Color	20	5–20	—	0
Hardness	—	0–10	—	0
Iron	0.25	0.25	4	0
Manganese	0.25	0.25	0.05	0

mum in the mill and when no treatment before discharging was necessary. However, when waste treatment is necessary, recovery of byproducts will often appreciably reduce the cost of treating the waste.

ANTI-FRICTION BEARING applications in the textile industry were described by R. H. De Mott, of SKF Industries, Inc. Mr. De Mott stated that whereas it was originally felt that power saving was the main advantage of anti-friction bearings, it has been found that there are many other advantages, such as increased production, lower maintenance costs, and improved quality of product. On various types of textile equipment anti-friction bearings provide greater reliability, require lubrication at only infrequent intervals, entail less leakage of lubricant, keep original settings for long periods of time, provide more uniform speed with a minimum of belt slippage, increase life of belts and gears, reduce vibration of equipment, and permit some machines to be brought up to speed more quickly.

On cotton pickers, or example, anti-friction bearings result in power savings up to 4 hp. per picker; provide cleaner laps; and insure against leakage of lubricant, thus guarding against slippery floors and danger of fires.

On the main cylinder of cotton cards, anti-friction bearings eliminate leakage of lubricant and so-called soft wires, thus providing a greater effective width. On spinning frames, power savings through use of anti-friction bearings range from $\frac{1}{8}$ to $\frac{1}{2}$ hp., power factor is improved, frames can be cleaned more quickly, there is less danger of oil on yarn or bobbins and less vibration and ends down. Anti-friction bolsters for spinning and twisting spindles provide power savings of 18 to 25%, require lubrication only one to three times per year, and result in increased breaking strength of yarn. For the tension pulley on spinning and twisting frames, anti-friction bearings give 15% power saving and require lubrication with grease only once in two years.

TEXTILE DRYING DEVELOPMENTS were reviewed in a paper written by Fred Kershaw, of Proctor & Schwartz, Inc., and read by Myron T. Fleming. Following is an abstract of the paper:

Whereas not so many years ago it required about 10 min. to dry dyed cotton in an automatic raw stock dryer, today in the most modern type of dryer dyed cotton is being dried in $1\frac{1}{4}$ min. Capacity has been increased more than 100% over old types. To attain this increased production, better quality of the dried stock, and greater cleanliness of the machine, practically every feature of the older types of machines was discarded, and a completely new development worked out. For instance, an entirely new automatic feed was developed. The modern dryer uses what is termed a rotary drum feed. Wet cotton is thrown or blown into a hopper in which a 48-in. diameter spike drum revolves, which picks up the wet cotton and deposits it onto the dryer conveyor. By using turbine fans and direct motor drives, it has been possible to confine the air travel in a restricted and well-defined path, and to obtain high velocities through the stock at higher static pressures than was possible with old-style fans.

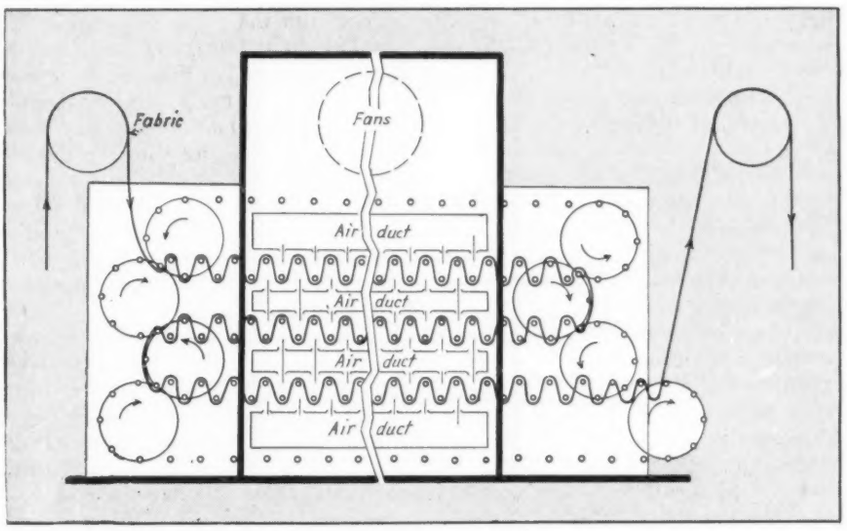
The conveyors used for carrying the cotton through the dryer have undergone a radical change, in that woven wire screen has been replaced with perforated metal plates. Another development is the application of squeeze rolls, instead of centrifugal extractors, for removing surplus water from the stock before drying.

In the dryer for skein yarn a recent development increases the productive capacity, and at the same time prevents snarling and damage. This development is a protector or skirt which travels with the skeins of the yarn as they pass through the dryer and prevents them from touching or rubbing against the sides of the machine. Use of this traveling protector permits the loading of the skeins right out to the ends of the poles.

For drying of yarn in package form, a dryer has been developed which is equipped with reversing air circulation, with temperature and humidity controls, steam sprays, and automatic exhaust dampers. The circulation of air is reversed at predetermined intervals so as more uniformly to dry the packages from top to bottom. The automatic exhaust damper and steam sprays are operated by humidity controls so that the circulating air never becomes dry enough to make the yarn on the outside of the package harsh.

Until a few years ago mercerized cotton warps were dried on cans. Now practically every mercerizer in the country is equipped with one or more rolling festoon dryers, in which the warp is dried by heated air instead of direct contact with heated metal surfaces. The result has been a more elastic and a rounder yarn, and a fuller count.

The fastest commercial drying machine at present in operation for piece goods is the straight-run high-speed tenter. In this machine, because of extremely high air velocities, 5-yd. cotton piece goods can be dried in approximately 10 sec.



Piece goods dryer now under development: fabric passing through machine is held in series of small loops between two conveyors; air jets blow on both sides of goods, preventing shading

In another piece-goods dryer, which is at present in the experimental stage, the cloth is conveyed by the air stream. In operation this dryer feeds itself as fast as the metering rolls at the feed end will permit. Adequate circulation is provided on both sides of the cloth. Therefore, there is no tendency toward shading, which is troublesome with certain types of dyes and finishes. Further, there is no marking of the finished goods.

J. H. Goldman, of Fibre Products Laboratories, in discussing the paper on drying called attention to use of high-velocity air to remove excess water from raw-stock before drying, application of hot-water heating to dryers, and a method of drying piece goods by passing hot, dry air at a high velocity through the interstices of the fabric.

Juggling the Formula

To vary the shade and prevent tendering of goods in aniline black printing

By MALCOLM MACKAY

ANILINE BLACK is widely used in the printing industry because of the excellent shades which can be produced with it at a comparatively low cost. However, it can be a tricky color, causing considerable trouble, if its peculiarities are not thoroughly understood. The following hints on handling aniline black are based on the author's experience in various print works. While some of the points mentioned are fairly common knowledge in the industry, others are not so well recognized.

The printing paste used in aniline black printing consists of a soluble salt of aniline, an oxidizing agent, an oxygen carrier, and a thickening. The soluble salt generally used is aniline hydrochloride, better known as aniline salt. Some plants, however, use the tartrate, chlorate, or nitrate of aniline. The oxidizing agent is either chlorate of potash or chlorate of soda, usually the latter because of its lower cost and greater solubility. Yellow prussiate of soda is most commonly employed as the oxygen carrier; other chemicals which are popular include copper sulphide, copper sulphocyanide, vanadium chloride, and yellow prussiate of potash. A good thickening for aniline black consists of 80 lb. cornstarch and 10 lb. British gum to 100 gal. boiled for 30 min. and cooled below 50° F. before adding the prussiate, chlorate, and aniline salt. A neutral gum gives better running qualities and makes the goods easier to handle by the finisher, but is quite a bit more expensive than starch.

A little juggling of the above-named ingredients will give a small variety of shades. A mixture containing 2 parts of prussiate of soda to 1 part of chlorate of soda will give the black a decided bluish cast. If the proportion is changed to 1 part of prussiate to 1¼ part of chlorate, a very decided green cast will be imparted to the black. Addition of a small amount of paraphenylenediamine to the printing color will tend to green and dull the shade. A mixture containing 9 lb. prussiate of soda, 4½ lb. of chlorate of soda, and 12½ lb. of aniline salt to 15 gal. will give a very deep, blue shade of black; this is the mixture generally used on percales and similar fabrics. This mixture can be reduced considerably with neutral starch or gum to reduce the color cost and counteract tendering on very light fabrics, and still obtain a very good black.

THE RUNNING QUALITIES of aniline black may be improved by the following precautions: If the ingredients (prussiate of soda, chlorate of soda, and aniline salt) are dissolved and mixed with the thickening just before sending to the printing machine, the black will give the printer less trouble than a black made from standards. Dissolving and fine-straining the ingredients before mixing with the thickening will remove any foreign particles that may be present. A good solvent and oil should be added to the printing color. There are several compounds on the market that serve the purpose of a solvent and a lubricant.

When the black is running after Rapidogen or similar colors, the black has a tendency to cake on the doctor blade, and sometimes to build up on the printing roller, and cause streaks. This may be overcome in most cases by the addition of 1 qt. of phenol (carbolic acid) to 15 gal. of black. Addition of a small amount of caustic soda to vat colors running alongside aniline black will protect the vats from the hydrochloric acid set free in the ager and will give a deeper shade on the vats. Addition of a small amount—about 2 oz. per gal.—of hydrosulphite to aniline black running after Rapidogen colors will kill any Rapidogen that is carried over into the aniline black color pan. When black is run las on patterns where heavy figures of vats or Rapidogens run ahead of it, a weeper should be used on the black to keep it clean and to protect it from the alkali that might be brought over from the other colors.

PREVENTING TENDERING. Aniline black, if not handled properly, will tender the goods. This tendering is done by the hydrochloric acid that is set free during the ageing process. In properly balanced formulas very little acid will be set free. Therefore, use of a properly balanced formula is the first step to be taken to overcome the tendering. The formula given above is an example of a well-balanced mixture, and the writer knows of at least six plants in which it is giving excellent results. In addition to a well-balanced formula, there are several other measures which can be taken to help prevent tendering. For example, a mixture of paraphenylenediamine and ammonium sulphocyanide added to the printing color is helpful. The ammonia in the ammonium sulphocyanide is set free and neutralizes the free hydrochloric acid which is present.

Addition of aniline oil to the printing color is also helpful, as this furnishes free aniline to combine with the free hydrochloric acid. The color-mixer should be careful not to have an excess of aniline salt, as an excess will cause tendering.

For drying the black after printing, the dry cans should be barely warm enough to dry the black, as hot cans will tend to set free the hydrochloric acid and cause tendering.

The goods should not be aged longer than 3 min. in the rapid ager on single-color work, and no longer than necessary to develop the vat colors when printed alongside vats. Incidentally, acid ageing a single-color black will prevent alkaline resist spots from showing up on the black.

The goods should be soaped immediately after ageing, unless they are passed through an ammonia box after ageing; in the latter case the hydrochloric acid in the cloth is neutralized and consequently will have no action on the goods. After the black has been aged and soaped, a treatment with weak chemic will give it a red cast. A treatment with a solution of sulphonated castor oil will deepen the shade and give it more of a desirable jet appearance.

In handling on the open-soaper, the oxidizing bath should be cold and the soap solution should be no more than lukewarm, as a warm oxidizing bath and a hot soap solution will give the black a decided blue cast, which in some cases is not desired.

Fabrics that have been chlorine-bleached are turned slightly pink when stored where aniline fumes reach them. This pink tint is caused by the aniline fumes combining with a slight trace of chlorine in the fabric. The writer knows of no test for chlorine delicate enough to show up this trace of chlorine.

This pink tint can usually be removed from light goods by running the goods through an ammonia box or through a strong, hot, alkaline solution on the open-soaper. It is sometimes difficult to remove from heavy fabrics.

Nomograph for Worsted Spinning

Speeds up overseers' calculations of roll speeds and spindle productions

By S. V. MEHN*

SAVING TIME on calculations in order to devote himself more fully to his managerial duties is the concern of every overseer and superintendent. The less the time that he must spend on detail, the better the job that he can do in operating his mill or department in the most efficient manner.

The chart reproduced below is designed to allow worsted spinners to spend a minimum amount of time in production calculations. Spinning and twisting calculations, including consideration of contraction due to twist, can be made with only one arithmetical operation.

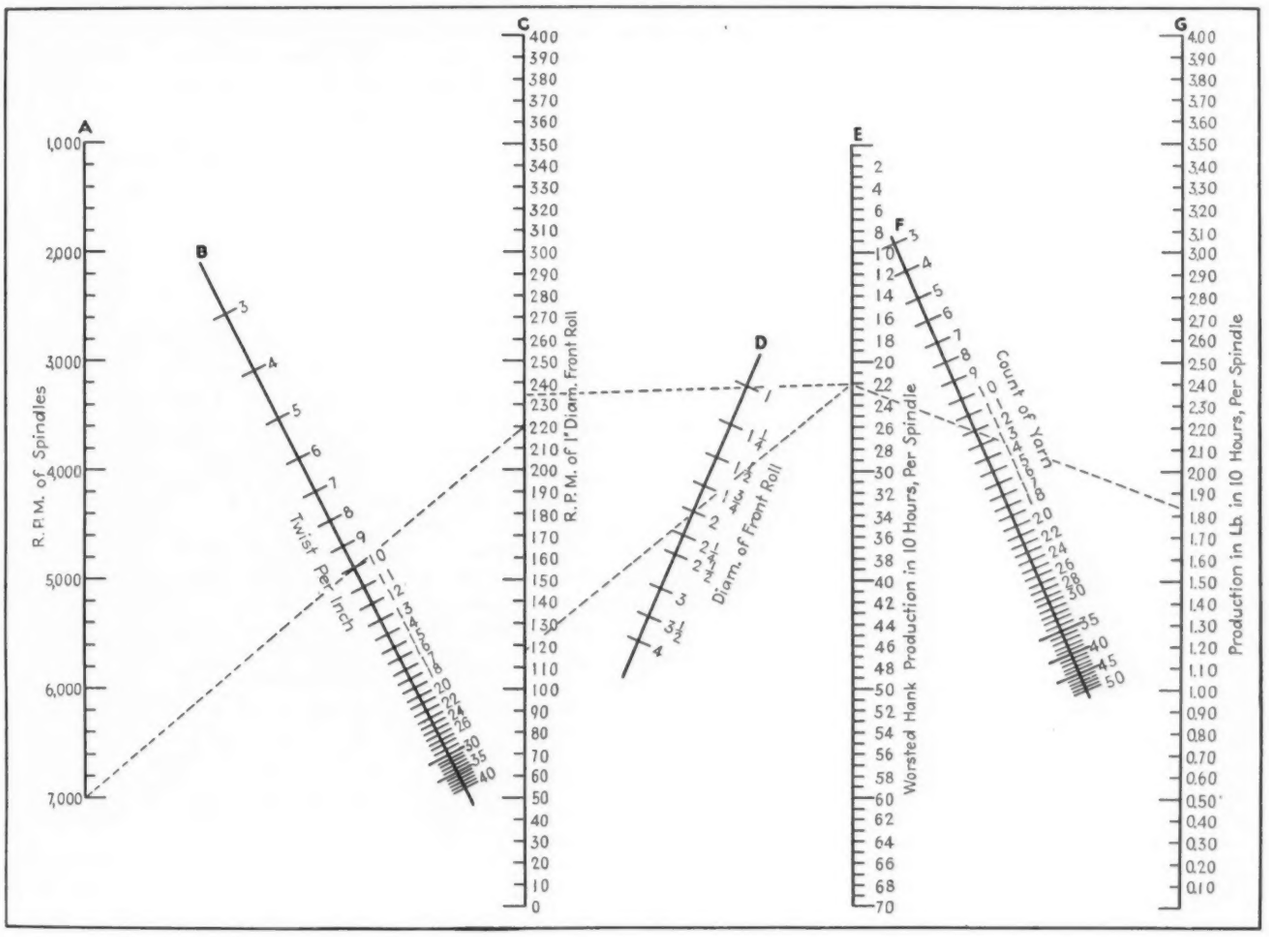
To find the front roll speed required to insert a desired twist per inch at a given spindle speed, place a straightedge through the proper points of scales *A* and *B*, and read the front roll speed on scale *C*. Thus, 7,000 r.p.m. of spindle requires a roll speed of 223 r.p.m. when inserting 10 times per inch. The reading on *C*, however, is for a 1-in. roll and does not take into consideration yarn contraction due to twist. At this point must be made the only arithmetical calculation necessary in the use of the chart: Divide the roll speed by 1 —% contraction to obtain the true speed. Thus, if there is 5% contraction, the correct roll speed is 223 ÷ 0.95 = 235 r.p.m. for a 1-in. roll.

But suppose the roll diameter is 2 in. To find the speed of the 2-in. roll, lay a straightedge from 235 on *C* through 1 on *D* and read the worsted hank production on *E*. The reading on *E*, which is 22, is the hank production regardless of roll size. Then, a line from point obtained on *E* back through actual roll diameter on *D* gives the speed on *C*. Thus, a 2-in. roll at 118 r.p.m. gives the same hank production as a 1-in. roll at 235 r.p.m.

Production in pounds must be based upon hanks and yarn count. A straight line from hank production on *E* through yarn count on *F* gives pounds production on scale *G*. Production of 22 hanks of 12s yarn per 10 hr. equals production in lb. per spindle per 10 hr. of 1.83 lb., as illustrated.

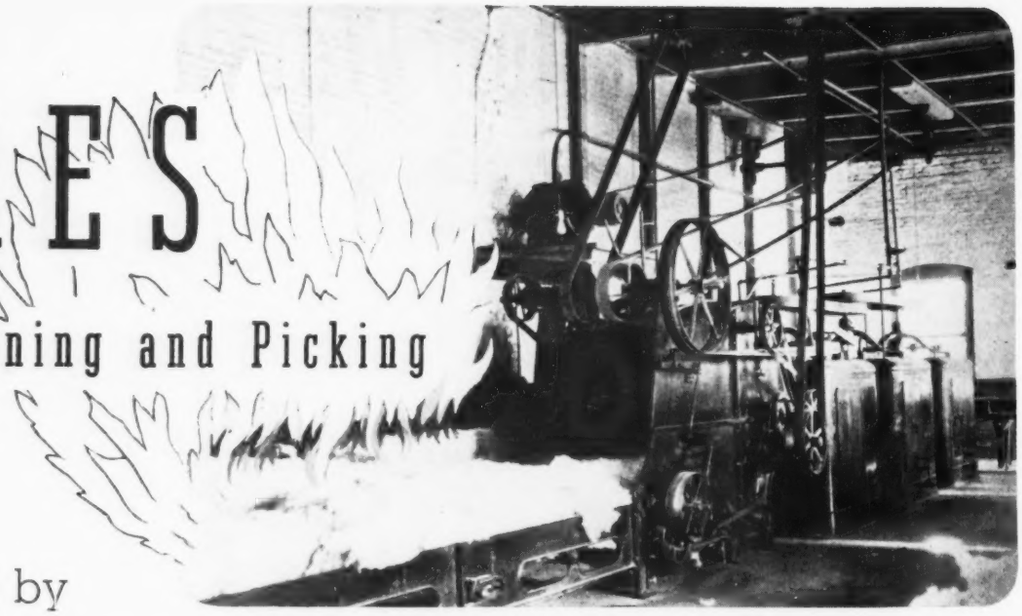
* All rights reserved by the author.

Note: The original chart supplied by the author measures approximately 12 x 16 in. If 25 or more readers desire charts of that size and will so advise the Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York, we shall be glad to have reprints made and supply copies gratis. A few more copies of the Nomograph for Cotton Spinning and Twisting, which appeared in the August, 1940, issue, are also available.



FIRES

In Opening and Picking



Are caused by carelessness, negligence and improper lubrication

By LAMAR FOGEL

THE CRY "FIRE!" is one that might suddenly be heard in the opener or picker room of any cotton mill, from the largest to the smallest. In fighting of fires, smoke causes strangling, choking, sneezing, red eyes, and sometimes sickness. It is not uncommon for one or more fire-fighters to slip on the wet floor and to arise with a sprained back, ankle, wrist, or a broken bone. After extinguishing a blaze, it is necessary to make a thorough examination of the machines that have been subjected to it. A great amount of cleaning and drying must be done and sometimes considerable repairs must be made; all machines must be thoroughly lubricated before being put back into production.

Prevention of picker fires and development of an efficient system of controlling and extinguishing them are timely subjects for consideration.

When picking and opening machines are installed, the entire floor under each machine should be covered with sheet metal. These metal floor coverings serve several purposes: they catch the drippings from bearings and do not give a fire an oil-soaked floor on which to feed, and they protect the floor and prevent a fire from burning through into dust pits or the floor below. A blaze which is allowed to reach the dust pits is an extremely unpleasant one to fight.

Picker-fire prevention has its beginning before the bales of cotton are trucked into the opener room. It is begun in the warehouse by removing all the ties from compressed bales, and all but three ties from standard-packed bales. This reduces the danger from cotton tie-buckles in the opener room by having but three buckles to watch on each bale instead of nine or more. These flat metal buckles look harmless when lying on the opener-room floor. However, when they are fed into an opener or bale breaker, and subsequently to a breaker or finisher picker, or to a one-process picker, they play havoc if they meet the point of a beater and strike a spark that results in a fire.

Maintenance of good mechanical condition of machines, and regular cleaning of flues, air chambers, feed rolls, and screen cages, are necessary and helpful in the prevention of fires. This routine many times will lead to the discovery of a choke, loose part, or stray piece of foreign matter before it has created sufficient friction to cause a blaze. If uniform, clean, laps are to be produced, flues and chambers should be cleaned daily, or perhaps on each shift.

Mechanical condition is important for efficient and continuous operation, but it also plays a vital part in the elimination of fires. Loose lags, loose bearing holders, worn studs, and hollowed bearings, as well as various other trivial things, often result in an expensive blaze. If the fire, cleaning, reconditioning, and repairing cover a period of hours, an almost complete shut down of the carding and subsequent processes will result.

One of the worst fires the writer ever witnessed in a picking system was one that started in a lattice opener. It was caused by a feed-roll bearing that failed to get proper lubrication. The bearing, as well as the feed-roll neck, wore down, allowing the feed roll to be lowered so that it was struck by the Buckley beater. Sparks ignited the cotton and flames spread rapidly through the feeder system. Six single-process pickers were ablaze almost instantly. This resulted in a shut down of over 200 cards and other machines for the period of about six hours that was required to clean the pickers, dry them, and make necessary repairs.

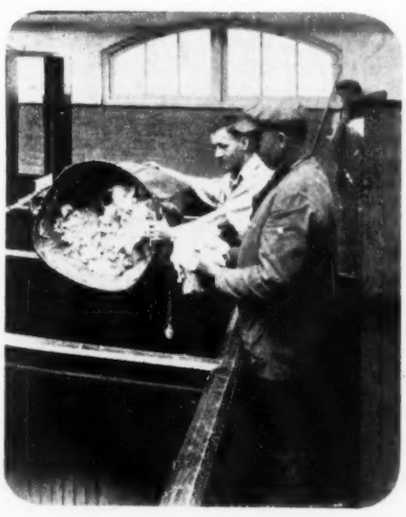
The fire just mentioned is only one case substantiating the statement that picking, cleaning, and opening systems have presented one of the most demanding problems to lubrication experts and maintenance supervisors. Not only is it a problem to get oil or grease into the right place, but the second problem presenting itself is that of keeping oilways and grooves clear of the dirt and other trash that naturally exist on pickers due to the high content of foreign matter in raw cotton.

Forced lubrication, with compression greasing in plain and ball bearings, is a decided step toward proper maintenance of machinery and assists directly in prevention of some picker fires. Cotton may get into open-end bearings or collect around shafts at the sides of overfilled feed hoppers. If aprons are slack, the ends of apron shafts often collect enough lint or cotton to create friction and start a fire. These shafts, even though they turn slowly, demand attention, and the application of ball or roller bearings is worth considering.

REWORKABLE WASTE is another source of picker fires, due largely to the carelessness of those who collect it. An occasional piece of metal, even though minute, thrown into a waste receptacle at the end of a roving or spinning frame often results in a picker or waste-machine fire. Nuts, broken spindles, doff-box corner-guards, bobbin-base protectors, thread guides, separator clips, bobbin rings, odd screws, spinning rings, and numerous other items, including matches, are some of the things carelessly thrown into waste boxes. As a preventive measure, each truck, box or bag of reworkable waste should have an identification ticket stating kind of waste, type of cotton, weight, date, and collector's initials or name. These tags will give a clue to the careless collector who, when aware that his carelessness is being traced, will be more careful to find these items and lay the blame where it is due.

The inspection of reworkable waste and its importance is well illustrated by the case of a mill in which each shift was required thoroughly to examine the waste returned to the opening room. Things went along smoothly for some weeks until one night the inspection was omitted. A fire followed. This was convincing enough for those in charge of the department, and since then this operation has never again been skipped or omitted.

The long wire on the bale-identification tag which the Department of Agriculture proposed as a means of tracing bales back to grower and gin has resulted in a number of fires. These tag-wires are fed into openers or bale breakers in the thin layers from bales. On one occasion, one of these was fed into a system, unintentionally, and resulted in breaking a picker side so badly that a new one had to be purchased and fitted. Another fire, started in the opening machinery by one of the long tag-wires, was drawn by air currents into the condenser and passed on into the picker machinery. More than 20 hr. of work by the entire machine shop force, and by three shifts of picker help and card grinders was required to repair the condenser and the eight picker-screen cages which had to be soldered and rebuilt.



Inspection of waste and removal of all metal is a big step in fire prevention

Having all pickers grouped into one distributor or feeding system—whether it be automatic control, Gyrator, Morton belt, or a home-made belt or chain apparatus—creates a possibility of all pickers being subjected to a fire simultaneously. Putting half of them on one system and the other half on another will mitigate the fire hazard. This change will require another condenser and another fan, or a splitting of the opening equipment. After a few fires, however, the cost will be offset, because 100% production will not automatically be stopped by a fire.

FIRE-FIGHTING EQUIPMENT is too often neglected. This is one of the primary reasons why picker fires spread, gain headway, and do considerable damage before being brought under control. Not only is there usually a neglect in maintaining proper equipment, but the inspections of water hose, carbon tetrachloride guns, and soda-acid exinguishers go lacking also. Hose should be inspected for leaking or rottenness, chemical guns and fire buckets should be kept filled, the larger soda-acid guns should be periodically recharged with live acid and cleaned of the soda corrosion on their inner walls.

A fair standard for the number of fire-fighting devices required is one carbon tetrachloride gun for each picker, opener, and waste machine; a water hose for each three pickers or other machines; and one soda-acid extinguisher (5 gal. capacity) for each pair of machines. With this as a standard, and a man-power system worked out in proper order, a long stride will be made toward getting even a severe fire under control before great damage is done, and toward getting machines running again with least lost production. Another suggestion: carbon tetrachloride guns should immediately be refilled and thoroughly tested after each fire. Soda-acid tank extinguishers should be recharged after having been turned over to be used, because once they have begun to drain they cannot be replaced on their hangers and correctly said to be in a usable, efficient condition. Too, every three to six months all such extinguishers that have not been used should be emptied, washed, and recharged. Occasionally, one of these is unintentionally knocked off its hanger, and is positively useless until it has been recharged.

Fire buckets should be filled after each fire. They should be checked at least once a week—being cleaned and refilled as evaporation demands. Also, buckets should be suspended high enough from the floor so that a man can walk under them without touching. Otherwise a fire-fighter, when groping around in a picker room full of smoke, may bump his head against the lower rim of a bucket and receive a nasty gash or painful bruise.

Sprinkler systems are indispensable aids. To assist in the control of flames and sparks, a sprinkler head should be fitted in every place where fire might become started. Many fires could have been held in check without spreading had heads been placed in the right positions over opening and picking equipment. Not too high a melting point should be used in the head plugs.

Too often the item of fire-fighting man-power is neglected in the mill's fire-department set-up.

When considered correctly, the opening and picking departments of most cotton mills represent, together, the backbone of the plant as to quality and 100% possible production. In such cases, concerted effort from all departments should be put behind this fire fighting in the picking and opener rooms, and not merely left with picker tenders, opener men and picker fixers.

Seemingly, an ideal organization of a fire-fighting squad, or crew for coping with this problem, includes installing in every department of the mill an alarm that can be set off by broken glass or similar arrangement within the picker and opener rooms, and instructing all section men or fixers to report to the department to fight the fire. It is good, also, to include in this force all the machine-shop crew. If the number of persons thus included is prohibitive, then alternate months of duty is the answer. The repair work of the other departments can well be held up for a few minutes in order to stop a fire that indirectly, or perhaps directly, may completely close down these other departments. With this set-up, the fighting force will be able efficiently to handle any fire that starts, and perhaps to save much of the expense that might be involved in a complete cleaning and overhauling of pickers and other machinery. To make this system most effective, an occasional fire drill is necessary in order to teach the men where fire-fighting equipment is located and to keep fresh in each man's mind the duties he is to perform.

Pebble in Crepe

Effect of various soaking ingredients; fabric moulage provides durable record

By GEORGE THOMAS

IN EXPERIMENTING with rayon soaking formulas and their effect on pebble, it was found that a most satisfactory binder was a prepared rayon warp sizing compound with a high-grade gelatine base. This and other binders, along with several soaking oils, were used in various ratios in order to determine the effect upon creping qualities of yarns. The maximum variation in pebble was obtained when different types of soluble oils were used and the binder kept the same. Oils used were: (1) sulphonated saponifiable oils blended with all-saponifiable vegetable oils; (2) sulphonated saponifiable oils blended with saponifiable and mineral oils; (3) soap bases made from alcohol and resin, plus mineral and vegetable oils; (4) so-called sulphonated mineral oils to which were added mineral oils of various viscosities; and (5) lauric acid esters which emulsify raw vegetable and mineral oils.

The conventional oil widely used in rayon throwing is sulphonated coconut oil consisting of a seed oil has been sulphonated so that approximately 60% of it takes up and holds about 40% of raw coconut oil or an oil having very similar properties. The pebble produced by 15 lb. of this oil, 2½ lb. gelatine, and 60 gal. water was used as a basis of comparison. Oils which gave a lower pebble than the base of comparison were rejected as being of no value.

The highest degree of pebble was obtained with the lauric acid ester oil. A close second was sodium sulpho-napthenic soap oil used in conjunction with oils of medium-low viscosity. The difference in pebble was pronounced, yet so slight that relative costs and other considerations make up the deciding factor in the selection for mill use. Plaster of paris impressions of the experimental fabrics were made; photographs of several of these moulages appear on this page.

Both the lauric acid ester oil and the sodium sulpho-napthenic soap oil contain less than 2% moisture and, therefore, are nearly 100% effective softening materials, whereas the sulphonated oil products contain from 15 to 20% moisture. Since the original research was conducted, repeat runs have been made in several plants to verify the results. Incidentally, both oils are made 100% from domestic raw materials.

The lauric acid ester oil is a light lemon-colored oil which mixes with hot or cold water to make a milky-white emulsion. The mineral oil is a water-white oil developed to yield the highest pebble with only sufficient gelatine to reinforce the rayon filaments. Its price is about the same as that of sulphonated coconut oils.

The second oil is also lemon colored but is a little darker than the lauric acid ester oil. It is non-oxidizing and will not harden or discolor rayon; nor is it difficult to remove. Present price is about 30% lower than lauric acid.

CONCERNING REMOVAL dyers stated a preference for lauric acid ester and sulpho-napthenic soap to sulphonated saponifiable oils for ease of boil-off and for dyeing at economical costs.

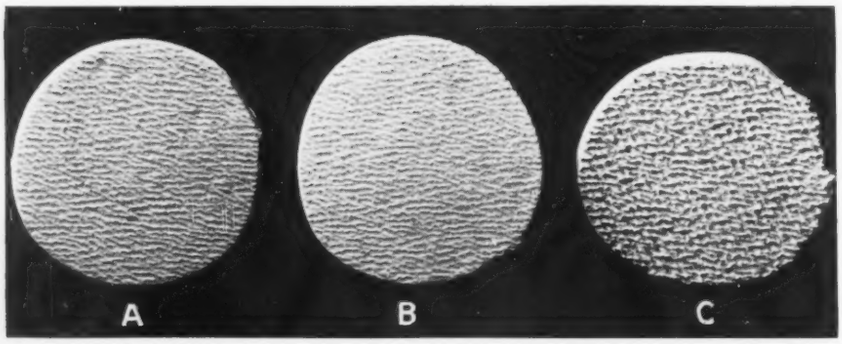
Use of oils and gelatines to produce pebble in 4x4 canton crepe construction is at present of only academic interest, since little of this cloth is used by the cutting trade. However, it is of assistance in developing other fabrics where creping or contractible force in twisted yarns play a part in final appearance, especially where fine-denier and multiple-filament yarns are processed.

Every throwster knows what happens when rayon yarns are processed at tensions exceeding their elastic limits. It is also known that sizings have the property, among others, of strengthening yarns so that greater tensions can be used safely. Thus, in throwing yarns of 50 and 75 denier, where the soaking bath contains oils that allow maximum crepe or pebble, amounts of size adequately to protect the yarn against tensions can be employed without flattening the crepe.

The value of a high-pebble soaking oil when used with amounts of gelatine to produce a normal or flat pebble has already been established among manufacturers of combination yarns. It is possible to produce a more worsted-like fabric due to better yarn reinforcement and to higher contractible properties of the rayon used in primary twists.

For purpose of comparing creping experiments made over a period of time where the earlier samples tend to change their characteristics, plaster of paris molds, as illustrated on this page, are very valuable as permanent records. On a smooth hard surface, lay out the sample without tension. From a strip of stiff paper ½ in. wide, make a ring about 3 in. in diameter and place it on the fabric. Saturate, but not excessively, the cloth inside the ring with light spindle oil; then pour in a ⅛-in. depth of a very thin suspension of freshly mixed plaster of paris. After this has set for 20 min., completely fill the ring with a stiffer consistency of plaster and allow to stand for about 24 hr. The casting is then inverted and the cloth peeled off. The result is a perfect impression of the fabric at the time it was made. Castings can be filed as records, or they can be photographed and the pictures kept for reference. In photographing castings, the source of light must be carefully controlled and directed in order to bring out the surface impressions and to avoid undesirable reflections.

Footnote: This is the second article by Mr. Thomas on the subject of soaking materials for rayon crepe yarns, the first having appeared in the November, 1940, issue. A third article will appear in an early issue.



Plaster of paris impressions of 4 x 4 canton crepe, 94 x 46, 150-den. acetate warp, 200/75 s-d. viscose-filling, 50 T. A — 2½ lb. of 100-gram warp size gelatine, 15 lb. sulphonated coconut oil, 60 gal. water, 110 lb. yarn soaked 30 min. at 120° F., extracted to 100% regain. B — Same as A except used 2½ lb. of 350-gram gelatine. C — Same as A, except used 15 lb. lauric acid ester oil

Removing Loom Grease

And other preliminary treatments for rayon fabrics prior to dyeing process

By B. S. HILLMAN

RAYON FABRICS upon arrival at the finishing plant should be inspected immediately to determine whether or not they contain any defects due to improper weaving or packing or to careless handling during transit. Unless such defects are noted at once, the weaver and the trucker will disclaim any responsibility for the damage and attempt to saddle the blame on the dyer and finisher. Further, certain types of damage can be remedied if they are detected soon after they occur, whereas they cannot be cured if they are not discovered until later.

Spun rayon fabrics, for example, are generally shipped in bales. Such cloths are rarely affected by the pressure of the steel tie bands on the sides of the bales. However, the bales are often set down by careless mill hands or truckmen on wet or damp pavements. Unless such materials are entirely wet out almost immediately, the cloth will show a definite demarkation in the dyed state between the wet and the dry parts of the material. Again, a trucker or other man handling the cloth enroute to the mill may use a bale hook to move the bale. This invariably results in holes through the fabric which penetrate from 10 to 100 yd. of cloth.

Some of the better-class fabrics are shipped on tubes. Occasionally, the weaver, in an attempt to save money, will ship such material rolled up on itself. In this case, the inner 5 to 10 yd. is badly wrinkled. It may or may not be possible to salvage all or part of the wrinkled cloth.

Gray goods also arrive at the finishing plant with other faults which the dyer must overcome if he is to ship first-class fabrics to his customer. For instance, many types of cloth will have loom grease, finger marks from the weaver, bad breaks due to wrinkling on the loom, soil of various kinds, etc. All these defects must be removed before dyeing.

There are various means of removing wrinkles and breaks from gray goods. The most common method is to frame the cloth before the boil-off. This is the practice in many mills for alpacas, romaines, and other ply-yarn cloths. For other types of fabrics, some mills make use of spreading devices in front of their boil-off machines. Still other mills run the cloth over a bent brass pipe in front of the full-width boil-off unit. More tension is necessary to remove any sharp wrinkles than is ordinarily used for the same material. This will sometimes result in stretching the cloth more than is desirable. Certain types of machines will pull out the wrinkles and breaks by applying tension while the cloth is held flat over a large drum. The cloth while held in this position can only shrink widthwise. As soon as the fabric leaves the drum, the cloth immediately starts to shrink lengthwise. By regulating the lengthwise pull, one can control the percentage of shrinkage to a remarkable degree. Fabrics which must have an excessive amount of shrinkage cannot, as a rule, be boiled off by machine due to the comparatively short time the cloth is in the boil-off liquor. Therefore, wringles in this type of fabric are doubly dangerous.

Loom grease and graphite are difficult to remove. Various means have been tried. Probably the best way is to add some type of organic solvent to the cloth before or during the boil-off. For example, spun rayon materials can be run through a mangle containing a mild soap solution fortified with kerosene or some other solvent. Dichlorethylether is a cheap, but effective, solvent. Other solvents used for this purpose include dichloroethylene, benzol, carbon tetrachloride, trichlorethylene, etc. The wet-out cloth is kept on a roll for several hours, or even overnight, before scouring. Ply-yarn fabrics cannot be handled in this manner, because of the danger of moiréing the cloth permanently. For this type of cloth, a good way to remove spots of this nature is to add the solvent to the boil-off bath.

Abstract of paper presented at a recent meeting of the American Association of Textile Technologists.

Proposed Terms for Fabric Hand

FOR CONSISTENCY and better understanding among those dealing with the hand of fabrics, representatives of the American Association of Textile Chemists & Colorists and of Committee D13 at a joint meeting proposed that the terms in the accompanying table be used regularly in naming the physical properties of fabrics related to hand and for describing the corresponding components of hand. Simple words understandable to the layman, as well as to the scientist, were chosen. As research progresses on the evaluation of hand and as standard tests for each property are recommended, definitions of the properties measured by the tests will be added to the table. Comments on the terms are solicited.

Physical Property	*Explanatory Phrase*	*Terms to Be Used in Describing the Range of the Corresponding Component of Hand*
Flexibility	Ease of bending	Pliable (high) to stiff (low)
Compressibility	Ease of squeezing	Soft (high) to hard (low)
Extensibility	Ease of stretching	Stretchy (high) to non-stretch (low)
Resilience	Ease of recovery from deformation in which rate of recovery is without limits and thus includes elasticity (instant recovery)	Springy (high) to limp (low). Resilience may be flexural, compressional, extensional, or torsional
Density	Weight per unit volume (based upon A.S.T.M. standard measurement of thickness and fabric weight)	Compact (high) to open (low)
Surface contour	Divergence of the surface from planeness	Rough (high) to smooth (low)
Surface friction	Resistance to slipping offered by the surface	Harsh (high) to slippery (low)
Thermal character	Apparent difference in temperature of the fabric and the skin of the observer touching it	Cool (high) to warm (low)

FIXING HOSIERY MACHINES

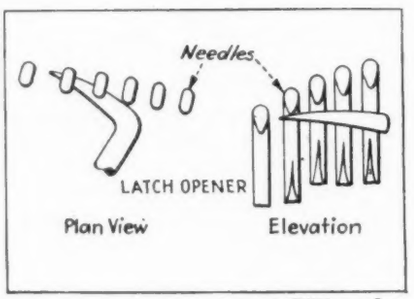
CIRCULAR MACHINES — Chapter VII Carrier Ring, Throat Plate, and Yarn Changing Fingers

By JULIAN W. HUGHES

THE LATCH-GUARD ASSEMBLY or carrier ring protects the needle latches from outside objects and carries the yarn-guide plate, the yarn-changing fingers and their springs, the throat plate, the latch openers, the elastic-yarn feed, yarn-binder-plate bracket, etc. Diagrams of the carrier rings of the Banner split-foot machine and of the S & W Model H H machine are shown in Figs. C9 and C10, respectively.

The carrier ring is hinged to swing vertically out of the way when it is necessary to put in a new needle or sinker, and for transferring the ribbed top to the needles in the case of hand transferring machines. The only attention which the carrier ring should require is an occasional polishing with crocus cloth to prevent the inside of the ring from becoming rough.

The throat plate is a stop for the yarn fingers as they are brought down to feed the yarn to the needles and a guard to prevent the latches from flying shut as the needles are brought around to receive the yarn. If the throat plate is set too close, the needles will strike it and cause unnecessary wear on both. If it is set in such a way that part of the needles are unguarded, the latches may fly shut and make dropstitches. It should be set so that it will just clear the needle hooks without touching them. Correct and incorrect throat settings are shown in Fig. C11.



Courtesy Scott & Williams Inc.

Fig. C12. Correct setting of latch opener on revolving-cylinder machines

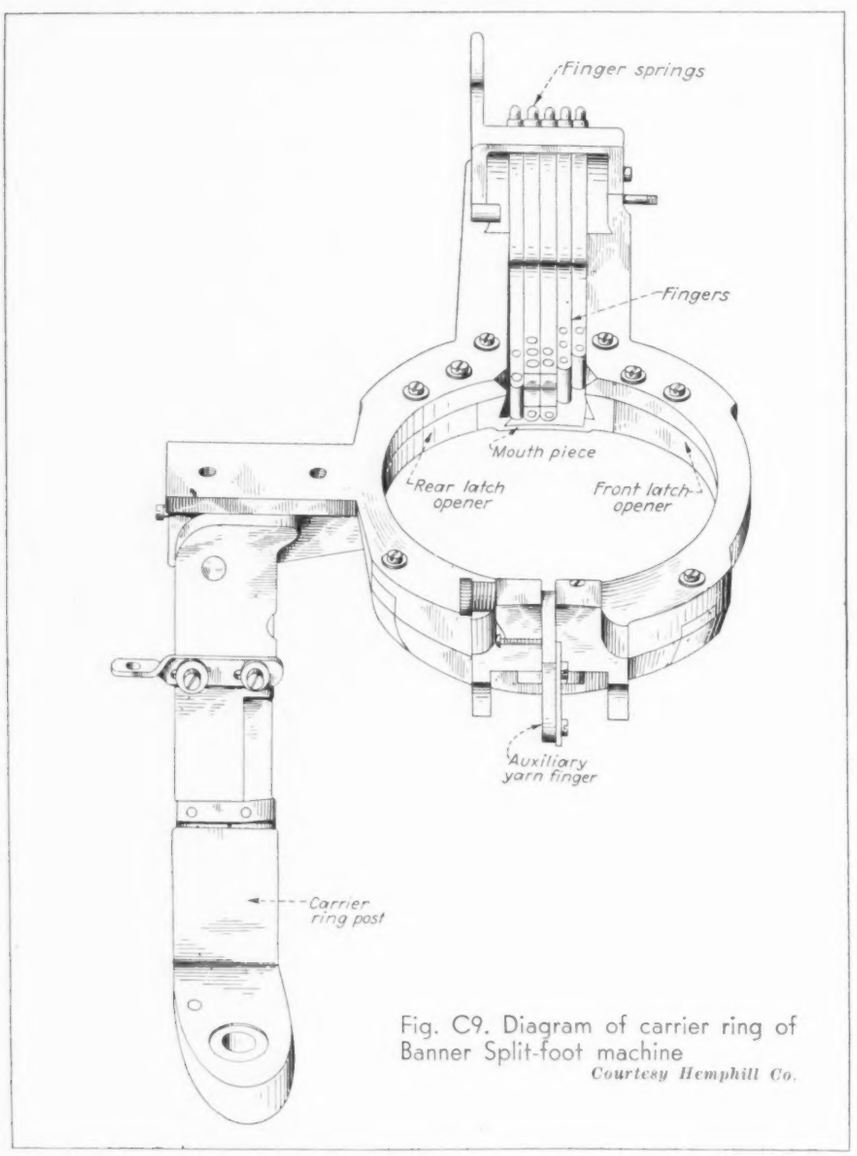


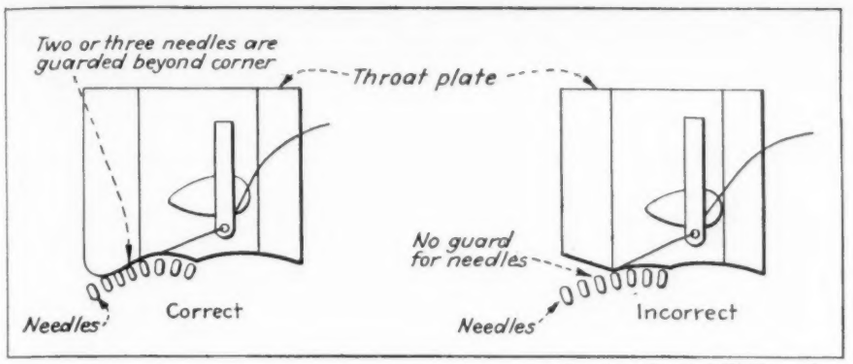
Fig. C9. Diagram of carrier ring of Banner Split-foot machine

Courtesy Hemphill Co.

The frequent dropping of the yarn fingers on the throat plate, which is necessary to properly feed the yarn to the needles, put a considerable strain on the throat-plate retaining screws. Occasionally, this hammering effect will cause them to work loose and disturb the setting. It is important therefore to check these screws at regular intervals to make certain they are kept tight.

YARN-CHANGING FINGERS. In order to aid the yarn fingers in feeding the various yarns to the needles, the yarn-guide plate is placed just above the fingers. If this plate is correctly threaded so each thread passes through an eyelet hole corresponding to its respective yarn finger, and the holes are not burred or grooved, it will not give any trouble. Sometimes porcelain eyelets are used in these holes.

When the yarn fingers are not in action, they are held up out of reach of the needles by individual levers. When the levers release the selected fingers, each is brought sharply down by an individual coil or leaf spring, de-



Courtesy Scott & Williams Inc.

Fig. C11. Correct and incorrect throat-plate settings

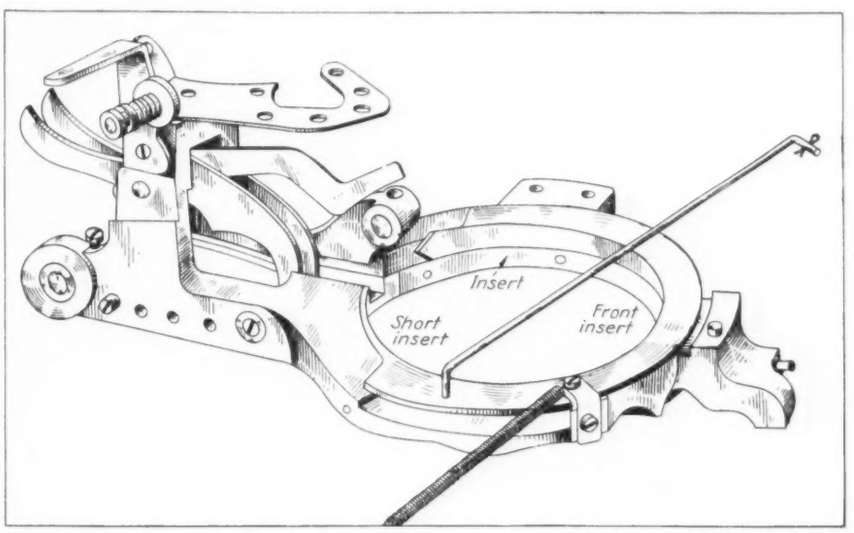
pending on the make of machine, so that the needles can engage the respective yarns. After a period of time, it is quite natural that these springs will become weaker and act sluggishly. This will put them out of time with the movement of the needles and cause poor knitting. Weak finger springs may result in bad laps in horizontal stripes and thin places in double soles of hosiery. It is important, therefore, to see that the springs are snapping the fingers into action at exactly the proper time.

Sometimes the movement of the fingers will become sluggish through an accumulation of foreign matter at their pivots or from lack of lubrication; therefore, it is necessary to keep these parts clean and well oiled.

On machines where leaf springs are used, the screws that hold them in place may work loose and thus make the springs less efficient. To avoid this, the screws should be tightened at regular intervals so that the springs will be firmly held in place at all times. Likewise, coil springs should be inspected frequently to make certain they have not broken. Broken finger springs can cause yarn fingers to get in the path of needles and damage the needles, especially in the case of the heel finger.

THE LATCH OPENER is employed once during the knitting of every stocking on machines which are set up to press off the hose as completed, as it is only after the press off that there is no yarn in the hook of the needle or within the latch so as to open the latch when the needle is raised. After each press off, the latch opener automatically pulls the latches open; otherwise the latches would have a tendency to stay closed and the needles could not hook the yarn being introduced for the knitting of the next stocking. If the yarn should break during the knitting of a stocking and the fabric press off, the knitter can manually operate the latch opener to open all the latches for the knitting of an entirely new stocking.

The setting of the latch opener in relation to the needles must be accurate. If set too far inward, it will strike and break the needle; if set too much the other way, it will strike and bend the latch. It must be set so that the point will pass between the latch and hook as the needle starts to rise. The correct setting recommended by Scott & Williams for that company's revolving-cylinder machines is illustrated in Fig. C12.



Courtesy Scott & Williams Inc.

Fig. C10. Diagram of S & W latch-guard assemblage

FULL-FASHIONED MACHINES—Chapter V. (Continued) Jacks and Beds

By WALTER A. SIMOND

CORRECT SETTING of the spring bars is essential to prevent the sinkers from retreating slightly during the dividing action and thus resulting in formation of uneven loops in the fabric. Once the correct setting has been obtained, it should be checked at regular intervals to make certain that the jack springs are operating properly at all times. The following recommended method of setting is abstracted from the January, 1934, issue of the *Reading Record*.

"(1) Turn the handwheel until the jacks are all completely forward as shown in Fig. F7. (2) with the jacks in this position, let the springs rest on them as shown, making sure that each spring touches its respective jack, but do not apply any pressure. (3) Now set the adjusting stud *A* so that there will be 0.06 in. clearance between it and the center bed; tighten the locknut in this position.

"(4) Put an 0.078-in. liner between the adjusting stud *A* and the center bed; this will give a distance of 0.018 in. in which to apply pressure to the springs; leave this liner in place until rod *1* has been set. (5) Set the cam assembly on the camshaft as shown in Fig. F7. (6) Tighten the cam lever *2* on the front catchbar shaft in such a position that the roller *3* touches the cam. (7) Tighten lever *4* on the front catchbar shaft in the position shown and put the rod assembly in

place. (8) Adjust the rod *1* until it is tight against lever *C*; tighten the locknut *B* and remove the 0.078-in. liner. (9) Set the collar *5* so that there will be $\frac{1}{16}$-in. clearance between it and the lever *C*."

Chapter VI—Movable Knockover Bits

KNOCKOVER-BIT BED HEIGHT is the most important adjustment of the movable knockover-bit motion, since each course of stitches must be drawn through the previous course as far as possible without injury to the fabric to obtain uniform stitches. In machines in which the knockover-bit beds are vertical slides, it is important that each bed be kept absolutely level; otherwise the bed may bind in its end guides and fail to move or move too slowly downward, thereby causing cut selvages or interference with the narrowing points when they carry stitches over the beds. Some beds of this type are movable on the base of the slides, and special care must be taken to set the bits exactly under the sinkers and gaged from the front bed. The stitches will be cut if they are drawn too hard against the back arch of the bits of a bed which is set too far forward.

It is essential that the knockover-bit bars be spaced correctly to the needles in a similar manner to the way the sinker-heads are spaced, and with no side play between the bars and their bearings. To eliminate play, move the bearing caps against the bearing side of the bar.

Textile Machine Works recommends that the knockover bits should be gaged with a 0.060-in. distance gage for the legger and a 0.070-in. gage for the footer between them and the bottom edges of the sinkers and dividers with the cam roller (*4* in Fig. F8) facing the round half of the knockover-bit cam (*3* in Fig. F8). Knockover bits should be cleaned thoroughly once a month. Any bits that are bent should be carefully straightened, as bent bits will result in bent or broken points. It is seldom necessary to replace the knockover bits; but when this must be done follow the same procedure as described in the November, 1940, issue of TEXTILE WORLD for replacing sinker heads.

Because bent knockover bits are usually caused by bent needles, the worst crimps will be found in the underside of the beds, and they can be straightened best from that side when the heads are out of the machine. Since there is no room for liners on the clamping plates, it is extremely important that when the caps are replaced, there should be no lint or needle beards beneath them; also, that the bits used are exactly of the same dimensions as those in the bit bar. When these bits are loose in the bed, they chafe grooves in the caps and beds and can never be held firmly afterward, thus causing lines in the fabric.

Poor selvages are often caused by improper alignment of the knockover-bit beds. When the machine is stopped with the stiches drawn down upon the notch in the knockover bits, examination of the fabric on the knitting machine will show that the selvage stitches are in contact with one bit only, where all the other stitches are to be turned by the rubbing action of two bits each. The rolling of the fabric at the selvage slightly compensates for the loss due to the one bit thrust; yet it will be quite obvious that the selvage stitch will be less likely to turn as well, over the top of the needle hook, as do the other stitches.

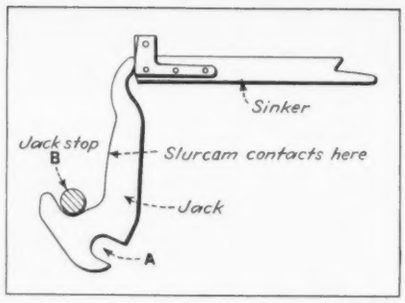
In order to obtain the best knockover action, it is necessary to have the needles and knockover-bit beds in absolutely the right height relations with the sinker heads. If the alignment is not accurate, the knockover-bit beds or needles will have to be adjusted to avoid injury to the fabric, selvages being sacrificed.

When a selvage is off, a simple test to show the advantage of a little more knockover action can be made by placing a loop of thread around the selvage needles just before the carrier reverses there. By pulling lightly upon the ends of the loop while the machine is running, the selvage will form and knit for an inch or so until the ends of the loop are dropped.

When the needles descend into a knockover-bit bed having insufficient action, the new kinks or loops will be carried the full distance, but the new selvage loop may drag the old loop down so far it will not turn over the top of the needle hook. Then, when the needles rise, the thread of the new loop will be in front of the needle, instead of leading up from the outside of the needle, and the selvage stitch will be cast off, since the thread did not wrap the selvage needle when the thread carrier was reversed and a new course begun.

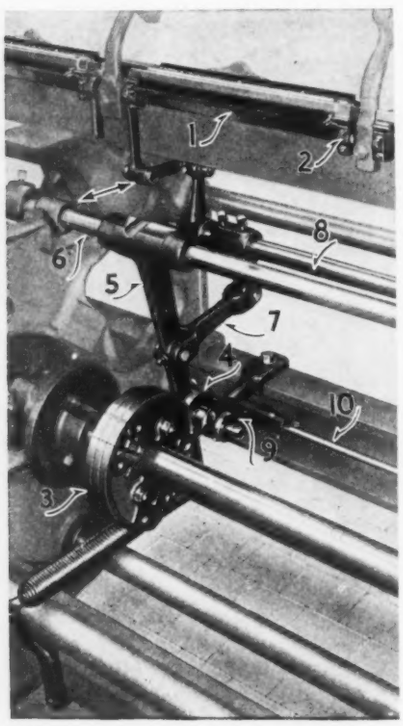
According to the "Knitting Machine Lectures of the Wyomissing Polytechnic Institute," it is necessary to maintain the low positions of the knockover-bit beds to prevent breakage of the welt hooks when starting sets on the leggers, and cutting of the fabric while transferring sets to the footers. The oscillating knockover-bit beds of the Reading machines rise to within 0.02 in. of the underside edges of the sinkers and dividers when the stitches or loops leave the nibs of the sinkers. On some of these machines the high position is not actually higher than the intermediate, but the high dwell of the cam is of greater length, thus holding the loops longer to draw them into place when a longer stitch is being knit, as in the welts of the stockings.

[In his next installment Mr. Simond discusses slurcams and boxes—*Editor.*]



Textile Machine Works

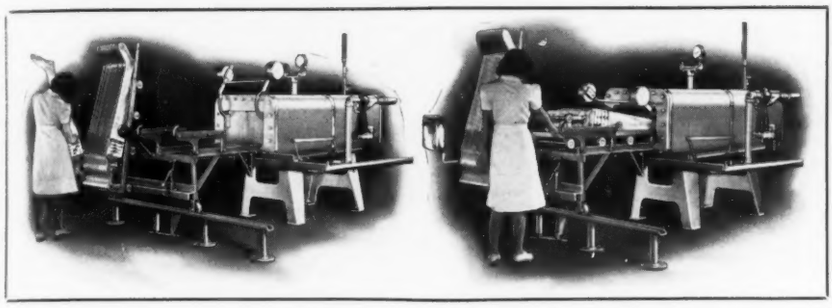
Fig. F7. Diagram showing correct setting of the spring bars



Textile Machine Works

Fig. F8. Movable knockover bits: 1, Knockover-bit bed; 2, bearings; 3, cams; 4, cam roller; 5, cam lever; 6, front catchbar shaft; 7, connecting lever; 8, knockover-bit shaft; 9, shifters; 10, shifting rod

TEXTILE EQUIPMENT NEWS



Nylon preboarding machine. Left, in operation; right, removing battery of forms (Paramount)

Nylon Preboarding Machine

A Nylon preboarding machine requiring but one operative and said to feature simplicity and high productivity is now available from Paramount Textile Machinery Co., 538 S. Wells St., Chicago.

Two batteries of 24 forms each are used. While one battery is in the steam chamber being treated, the other is outside being unloaded and reloaded. The forms are balanced and, when removed from the steam chamber, tilt from the horizontal into an upright working position. The operator then moves the other unit of forms in front of the door for insertion into the machine. All work is done in front of the machine, obviating walking around it. Pressure is said to be attained in 10 sec.

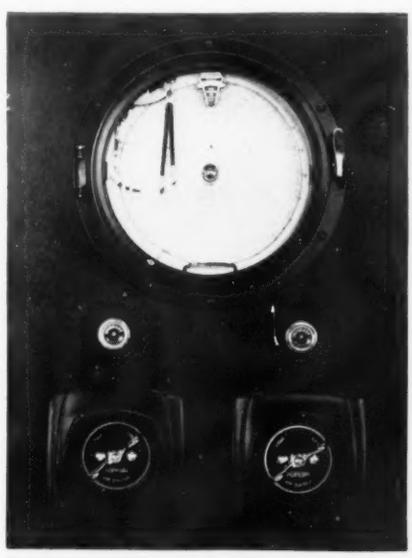
Forms are of highly polished, nonsnagging, stainless steel, made rigid by an inner rib said to eliminate clashing or bending, and thus decrease cuts and pulled threads. Each form is equipped for rapid size changes.

A feature of the unit cited is that the door is sealed from within by the steam pressure used in treating the stockings. This construction is said to be absolutely leak-proof, and to eliminate mechanical sealing devices. The design of the cabinet, it is stated, permits excellent insulation and the small door holds heat dissipation to a minimum.

Pneumatic Loader for Padders

Accurate measurement and application of pressure, elimination of cumbersome weights, and instant loading and unloading are among the advantages which Foxboro Co., Foxboro, Mass., claims for its new pneumatic loader for padders and similar squeeze roll machines. The loader is designed to maintain the proper nip, even when rolls are not exactly round, by utilizing the cushioning effect of compressed air. Bouncing of the squeeze roll is said to be prevented by the air cushion.

Compressed air from the mill supply line is piped to two cylinders, one located at each end of the squeeze roll. On the control panel, which can be located at any point convenient for the operator, a Foxboro air-switch cuts the air supply on or off; or if desired, reverses the air force, giving the top roll a pneumatic lift. The pressure applied by cylinders is determined by the setting of an Airdron regulator, and a recorder makes a continuous record of each day's operations. The ends of the squeeze roll can be loaded independently or give equalized uniform pressure as required.

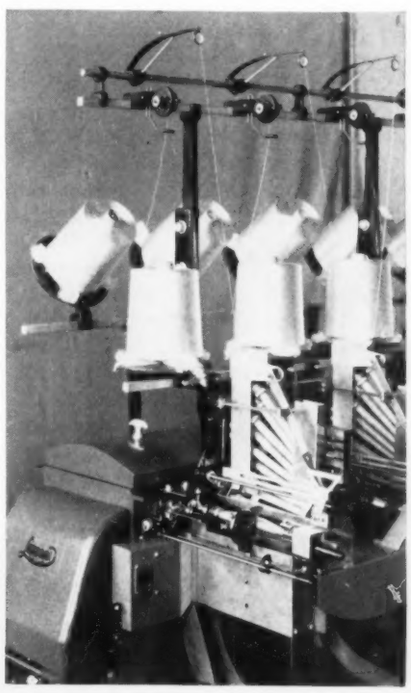


Control for pneumatic loading (Foxboro)

Automatic Bobbin Winder

The new automatic bobbin winder which has been in the experimental stage for several years at Universal Winding Co., Providence, R. I., is now being offered to the trade. The automatic is essentially a simplified No. 90 winder plus the electrical-mechanical automatic doffer. It is said that substitution of a rotating cam for a rocker cam as the actuator of the traverse mechanism has more than doubled speed and spindle production.

Winding spindles are on one side, and the standard machine has 48 spindles in six 8-spindle sections. To simplify the mechanism, spindles are



Automatic high-speed bobbin winder (Universal)

controlled in units of two. One operator, at the back, fills creels and ties knots; another operator, in front attends to broken ends and fills bobbin hoppers which hold 10 to 12 bobbins. These reserve bobbins should keep spindles supplied for about an hour on average yarns.

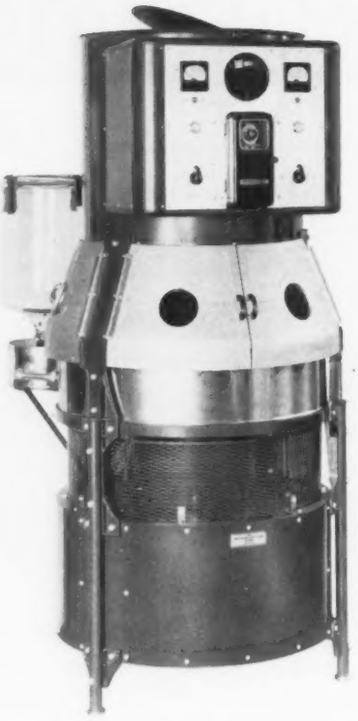
The automatic features have been built into the machine with a minimum number of parts, it is stated, in order to keep maintenance and repair costs low. The control method is a combination of electrical and mechanical

parts, which is said to have simplified the design.

Manufacturers state that the new winder is available for winding rayon, wool, worsted, cotton and other textile fibers. Parallel-sided bobbins are wound with layer-lock wind; a change in the number of winds for all spindles of a machine is made by changing a single gear in gainer case.

Improved Launder-Ometer and Fade-Ometer

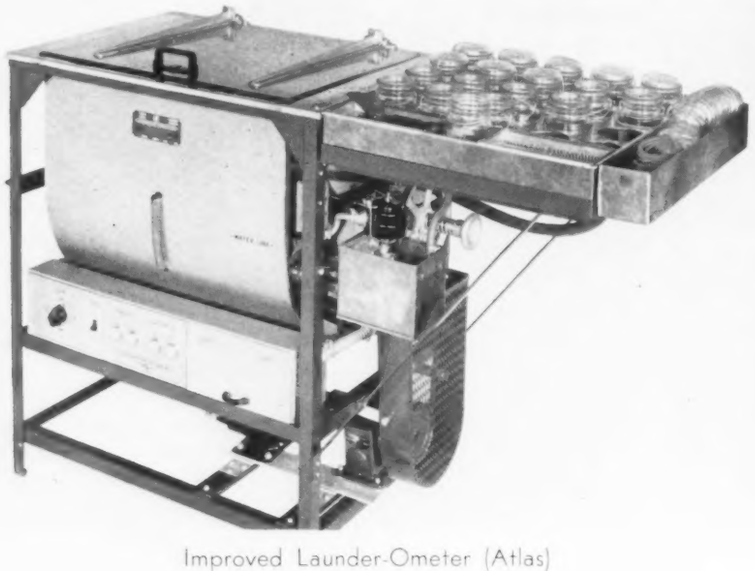
A new model Fade-Ometer for accelerated testing of fastness to light of textiles and an improved Launder-Ometer for testing fastness to washing and laundering have been announced recently by Atlas Textile Devices Co., 371 W. Superior St., Chicago. Features of the new Model FDA-R Fade-Ometer are as follows: (1) rotating sample-holding drum, giving positive assurance that all specimens will receive exactly the same amount of light; (2) temperature control within ± 3°, over a range of 95 to 150° F., using a visible-dial thermo-regulator; (3) higher relative humidity, ranging close to 60% on the average; (4) constant water leveling device; (5) improved glass-wool air filter; (6) micrometer time clock adjustment; (7) choke coil and resistance to provide more economical operation; (8) steady arc, assuring uniform ultraviolet output; (9) fully inclosed construction; (10) all control instruments on one panel at eye level; (11) light for examining samples when arc is not burning; (12) decals calling attention to places and time of cleaning, oiling, etc.; (13) guard to shield eyes while loading or removing samples during operation of arc; (14) machine



New model Fade-Ometer (Atlas)

will pass through standard size door; (15) byproducts of combustion such as found in open arc largely eliminated; and (16) pilot lights indicate when main line current is on. All Model FDA Fade-Ometers now in use may be converted into the new Model FDA-R.

Features of the improved Launder-Ometer are as follows: (1) increases accuracy of test by starting all samples at same temperature; (2) preheating one set of solutions while another series of samples is being tested results in great saving of time and increased output; (3) tray preheats all accessories (jar tops, rubbers, balls) to constant temperature through a circulating system integral with the reservoir or tank; (4) conveniently located jar holder facilitates addition of solution, sample, balls, as well as capping; (5) solution quickly separated from sample and balls by merely pouring of jar contents into built-in drain, and (6) insulated tank on electric models, saving time and operating expense. These features can be applied to earlier models, thus permitting Launder-Ometers now in use to be modernized.



Improved Launder-Ometer (Atlas)

Doubling and Tacking Machine

Curtis & Marble Machine Co., Worcester, Mass., has announced a new doubling and tacking machine said to have many improvements over the older type. Improved folder swings and stronger, higher folder arms have been designed to allow goods to be folded in a higher pile. The drive of the machine utilizes a roller chain instead of flat belt and gear reduction. A counterbalanced clutch case is used to give

Doubling and tacking machine (Curtis & Marble)

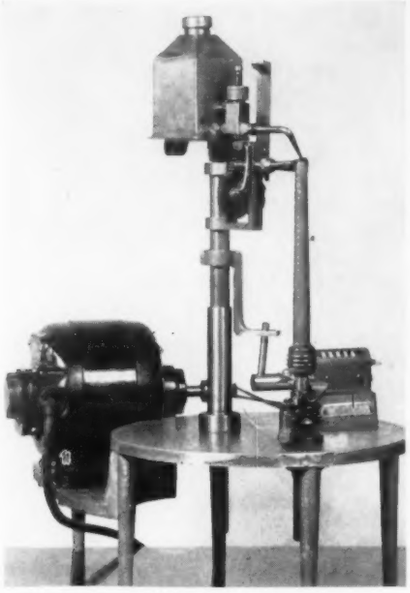
steadier running, and a straight belt has replaced the cross belt in the drive of the tacking head.

With the new tacking head, designated Type ONB, it is possible to run goods much faster than with previous machines and with more ease, it is stated. The head is sturdily constructed and has only one place where adjustment can be made, which is said to decrease to a minimum the machine's getting out of adjustment. Sprockets are keyed to their respective shafts and an eccentric bushing allows provisions

for take-up in the drive chain when necessary. Length of stitch is controllable by changing size of driving pulley.

Bobbin-Tip Painter

A machine for painting bobbin tips has been developed and is being manufactured by D. A. Jolley, Kannapolis, N. C. The device consists of a revolving spindle driven by an electric motor, and a mechanism which paints

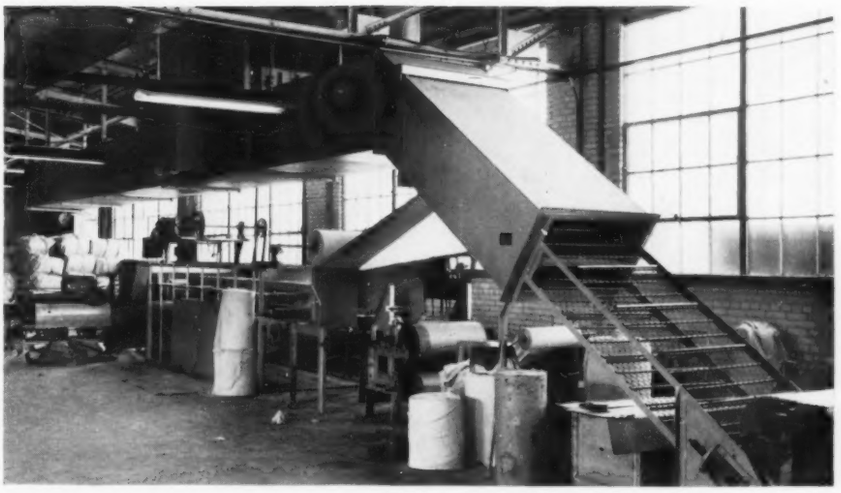


Bobbin-tip painter (Jolley)

the tip of each bobbin as it is pressed down on the spindle. A counter is provided to register the number of bobbins painted. The accompanying photograph shows the inventor's model.

Paint is held in a container at the top and is stirred automatically while the machine is in use. A carriage mounted on an upright stud is moved back and forth by a set of levers as bobbins are placed on and removed from the spindle. As each bobbin is taken from the spindle, the carriage carrying the brush moves away from the spindle. This movement, through gears, turns the brush ½ turn so that a new side will be presented to the next bobbin and, through a suitable cam, presses a valve button feeding a measured amount of paint to the brush. The placing of a bobbin on the spindle moves the brush over into contact with the tip; as the bobbin revolves, paint is applied. The amount of paint fed to the brush can be regulated by a simple adjustment on the paint pump.

Using the device, one operator can paint up to 1,250 bobbin tips an hour, it is stated.



Electrically heated overhead drying oven (Schmieg)

Electrically Heated Drying Oven

An overhead-type oven which is electrically heated and has forced circulation has been introduced by Schmieg Sheet Metal Works, Detroit, Mich. The overhead feature is said to permit use of the oven without the necessity of giving up valuable floor space to its accommodation. The unit is designed to require practically no maintenance because it is electrically heated with automatically-controlled temperature; the only maintenance required is the greasing of conveyor bearings and like attention to fans and motors, it is stated.

The new Schmieg oven, being electrically heated, makes no extra demands upon boilers because it provides its own heat. Each dryer is engineered by the manufacturer as a complete coordinated unit.

Cloth Opener and Folder

A redesigned heavy-duty all ball-bearing cloth opening and folding machine fitted with an adjustable-slot vacuum extractor and seal has been announced by Birch Brothers, Somerville, Mass. Beaters, spiral roll, draw rolls, and folder parts are ball-bearing mounted. Beaters are of semi-floating type in order to absorb shock, and the shaft has been increased in diameter; spiral rolls have brass bodies, and spirals and shaft have both been increased in size.

All gears are cut, and one of each pair is made of Phenolite, which is said to contribute to quiet running and to add life to the gears. Roller chain drives have been substituted for former chain or belt drives; the drive for the machine is by a motor built into the frame and so located that it does not overhang the cloth.

When fitted with a vacuum extractor, the machine opens, extracts, and folds goods in one operation and in many cases a de-tacking machine is added to pull the tacking at the time the goods are opened.

The machine is made in all widths up to 120 in., and is said to be usable, with modifications, on all fabrics from laces to rayons and woolens.

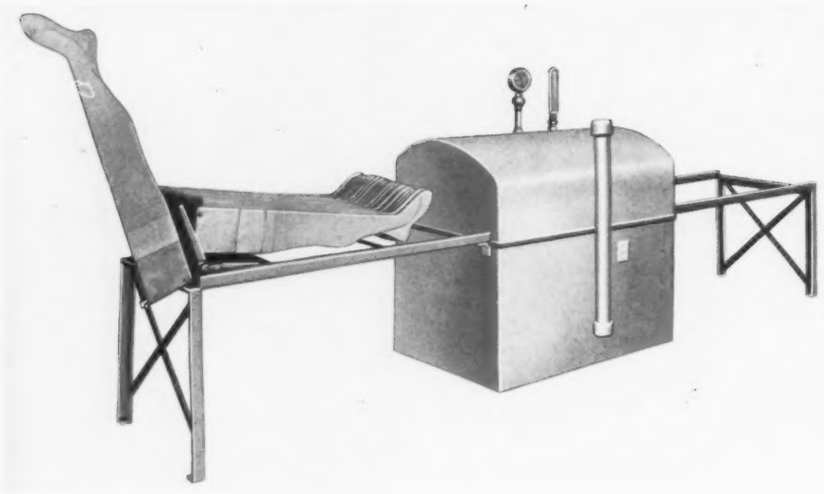
Bobbin Cleaner

Designed to lower the cost of bobbin cleaning and to provide a versatile machine which will clean a wide variety of loom bobbins, the improved Type L cleaner, announced by Terrell Machine Co., Charlotte, N. C., performs its task without any mechanical contact with the bobbin barrel. This feature should make it interesting to rayon and silk weavers. The machine can be equipped with either of several feeds to meet requiremnts of different bobbins.

Bobbins are fed single file as in conventional strippers. Compressed air released from jets near the butts below the yarn ends down into contact with an unwinding roll which completes the cleaning. The manufacturer states that cleaning capacity is 110-140 bobbins per minute, depending on bobbin design.

Interlock on Rib Machines

Equipment for altering existing rib machines for production of true interlock fabrics has been announced by Wildman Mfg. Co., Norristown, Pa. It is stated that, with the advent of the popularity of the coarse interlock fabric for sweaters, it became desirable to devise some simple method by which older machines could be converted without the expense of changing them



Nylon preboarder (Philadelphia Metal Drying Form)

to operate as double dial and double cylinder machines. This is accomplished by using two lengths of dial needles and two lengths of cylinder needles, each operating in their individual cam races.

Employed in the cylinder are a regular-length needle having a long butt, and another regular-length needle having a short butt in its normal position and an additional butt midway between the head and the normal butt. By arranging the cylinder cams, it is possible to raise these alternate needles on alternate feeds.

To make possible use of the existing dial and dial cap, there are supplied long and short butt dial needles which can be manipulated alternately on alternate feeds.

Nylon Preboarder

A new semi-automatic preboarding machine for Nylon full-fashioned hosiery has been announced by Philadelphia Metal Drying Form Co., Third and Ontario Sts., Philadelphia. It is stated that the machine is simple and foolproof, is economical to operate, and requires attendance of only one operator.

The machine consists of a box which is operated by push-button control and cannot be opened as long as it contains pressure, and two trucks, each of which has 30 forms. Tracks extending on each side of the box carry the form trucks. During the time one truck is in the box the other is being emptied and refilled. One operator should be able to handle at least 18 doz. pairs of hose per hour, it is said, using 15 cycles of 3½ min. each.

The manufacturer states that loading and unloading time plus time to build up pressure takes less than half a minute.

Useful Accessories for Textile Mills

A combination a.c. starter of the oil-immersed type, for use in corrosive or hazardous gas locations, has been announced by General Electric Co., Schenectady, N. Y. It is available with or without a circuit breaker, depending upon the application. Ease of installation and better protection against corrosion are among features cited.

Fiber rolls in small and medium sizes, made by a new method which provides a tough rugged hub and spider of zinc alloy cast under high pressure right into the body of fiber, are being introduced by Rockwood Mfg. Co., Indianapolis, Ind. Improved machine performance is among advantages claimed.

This tiering fork truck is said to lift and carry loads up to 7,000 lb., and tier them in piles 15 ft. or more in height. Textile uses cited include handling of machinery, transporting beams from warpers to slashers, slashers to looms, etc. It is a product of Clark Tructractor Division of Clark Equipment Co., Battle Creek, Mich.

A telemetering system which enables a measurement made at one place to be repeated at a distant point is being offered by Esterline-Angus Co., Inc., Indianapolis, Ind. It is said to be particularly useful in large manufacturing establishments, such as textile mills, which have interconnected plants, and are confronted with problems such as dispatching electrical power or fuel efficiently.

A cam-operated limit switch with ratings of 2 amp. at 600 volts d.c., and 25 amp. at 110 volts a.c. is announced by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Operation is by means of a camshaft on which rollers travel, making or breaking contact at any point on the travel.

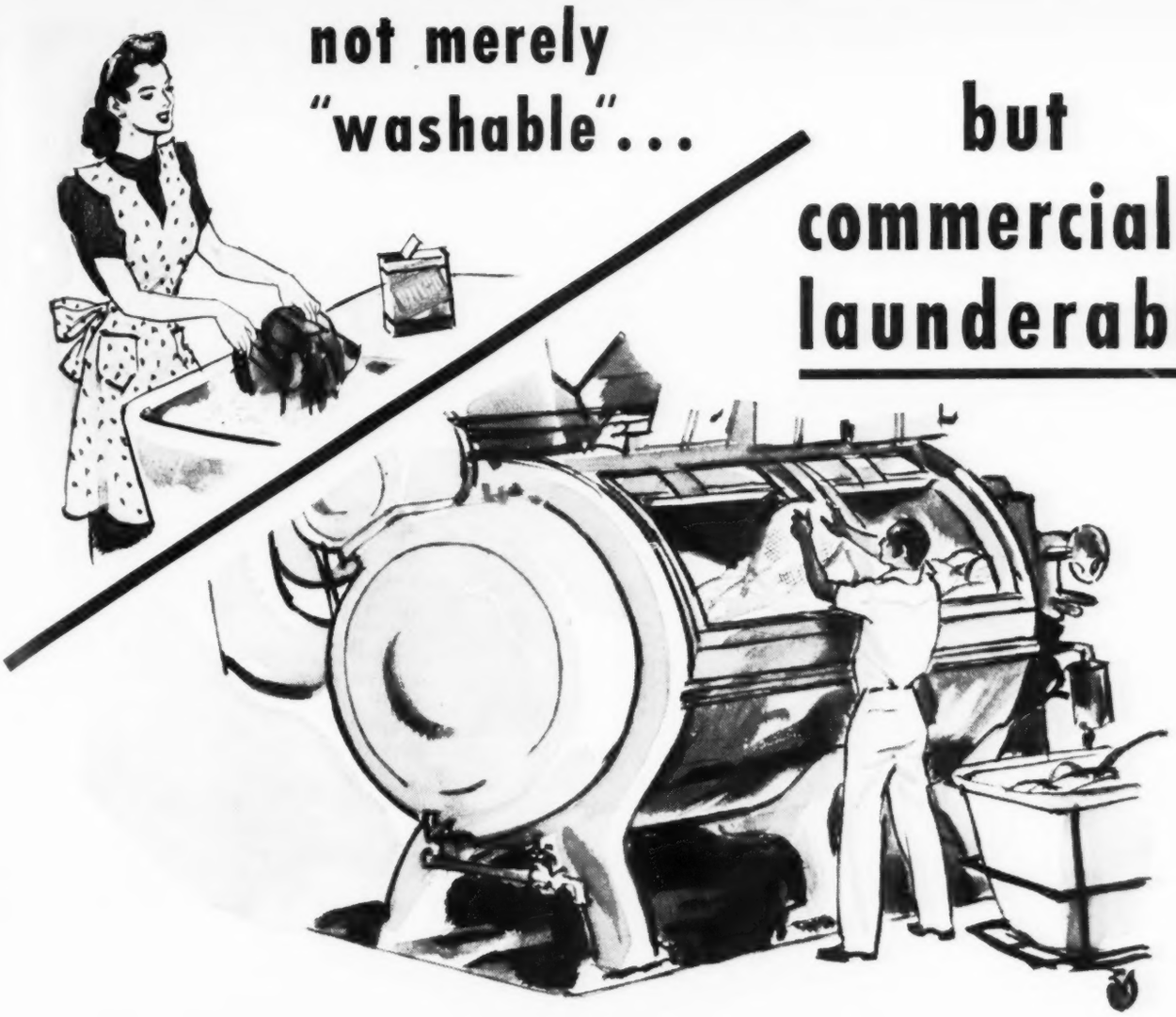
S.A.E. 4640 steel is now carried in stock for immediate shipment, it is announced by Joseph T. Ryerson & Son, Inc., 16th and Rockwell Sts., Chicago. This is said to be one of the best gear steels of the medium carbon grades, and to develop high hardness and tensile strength with a relatively mild quench. Stocks include hot rolled annealed rounds, in sizes from 1 to 5 in.

Adjustable-speed drives in three additional sizes—20, 25, and 30 hp.—are being marketed by Reliance Electric & Engineering Co., 1088 Ivanhoe Rd., Cleveland. The drives are all-electric, operating on 3-phase, 60-cycle, a.c. current.

Steel lockers designed for use in cramped quarters or where saving of floor space is an important consideration have been announced by Penn Metal Corp. of Penna., Oregon Ave. & Swanson St., Philadelphia. Each locker is 15x21x73½ in. in dimension, and provides two coat and two hat compartments.

Fluorescent lamps in larger sizes, designed to extend the benefits of fluorescent lighting for general illumination to larger areas, have been developed by Hygrade Sylvania Corp., Salem, Mass. The new unit is a 100-watt lamp, 60 in. long; a new fixture to hold the lamp has also been announced.

Speed reduction by a new method has been announced by American Pulley Co., 4208 Wissahickon Ave., Philadelphia. A helical-gear reduction unit is mounted on the driven machine and a standard belt drive installed between motor and input shaft of reduction unit. The unit iself has a fixed ratio of 13 to 1, greater or lesser, ratios being accomplished by change in the primary belt drive.



TECA* BLENDS

REG. U. S. PAT. OFF.

first laundry-approved spun rayon fabrics

LAUNDERED THREE TIMES, not by gentle home methods, but by the powerful machines of the commercial laundry. This is the severe triple-test which a fabric must pass to earn the "laundry-approved" label of the American Institute of Laundering. It is not surprising that blends containing Teca, Eastman crimped acetate rayon, are the first spun rayon fabrics to pass this test. Because Teca is a fiber that undergoes little or no change when wet, laundry-approved Teca Blends are fabrics with spun-in stability, built-in resistance to shrinking or stretching . . . Men's and women's garments of launderable TECA BLENDS, made to approved specifications, will be entitled to this label, guaranteeing their acceptance for laundering by any of the 2,200 laundries comprising the Institute membership. For further information about TECA BLENDS, consult . . .

A. M. TENNEY ASSOCIATES, INC., 10 EAST 40TH ST., N. Y. C.

Sales representatives for Tennessee Eastman Corp., subsidiary of Eastman Kodak Co.

*EASTMAN CRIMPED ACETATE RAYON

New Dyes and Chemicals

Potato Starch

Production in this country of potato starch said to be equal in quality to the best starches formerly imported from Holland or Germany has been announced by Morningstar, Nicol, Inc., 630 West 51st St., New York. The starch is being produced in a new plant recently completed in Houlton, Me., by a subsidiary company, Aroostook Potato Products, Inc. The process used in this plant, which is believed to be the first of the kind in the United States has been adopted from the European method. This process results in a starch of high viscosity, exceptional purity and uniformity, and low speck count. The high viscosity is particularly important in warp sizing, while the purity and whiteness of the starch are especially advantageous in finishing.

Among the features of the process employed in production of Aroostoocrat starch are included washing of potatoes in artesian well water to prevent contamination by river water, double grinding to separate starch from residue, continuous centrifuging of first starch milk to eliminate soluble enzymes and proteins and thus obtain high viscosity, four screenings to insure low speck count, and drying under themostatically controlled conditions in a Proctor & Schwartz Aeroform dryer to insure uniform moisture content.

Cold Process for Weighting Cotton Underwear Fabrics

Development of a new cold process for weighting cotton underwear fabrics and similar materials has been announced recently by Haas-Miller Corp., 4th & Bristol Sts., Philadelphia. This process can be employed either to regain bleaching losses or to obtain finished weight ranging from 1 to 8% over gray weight. The type of equipment recommended for carrying out the process is a tubular knit goods processing machine on which the operations of extracting and processing are carried out continuously, the goods being processed flat by means of a spreader and then run through a series of squeeze rolls. The first set of rolls squeezes out excess water and the second set of rolls directly behind the solution trough removes as much or as little of the processing solution as desired to obtain the required amount of weighting.

The chemical employed for regaining bleaching losses only is a clear viscous liquid called Hamico No. 177. To obtain a higher percentage of weighting, an odorless white crystal is dissolved cold either in Hamico No. 177 or in water. To obtain an extremely soft hand, Mint Softener No. 3 is dissolved in the weighting solution. The amount of each chemical needed depends on whether the goods are processed wet or dry, whether hydro-extracted or roll extracted, the weight of goods, percentage of weighting desired, subsequent method of drying.

Chemically, the cold process chemicals are amines. It is stated that they will not crystallize, dust off the goods, or cause any odors or staining. Another advantage cited is uniformity of weighting.

Synthetic Resin Printing Paste

Development of a synthetic resin printing paste for roller or screen printing has been announced recently by John L. Armitage & Co., Newark, N. J. Known as Armiton colors, these pastes come in concentrated form, each representing the maximum color strength available in that particular shade. These concentrated colors can be reduced in strength with Armiton reducing paste or, under certain conditions, with Armiton extender No. 1000.

Du Pont Colors

E. I. du Pont de Nemours & Co., Inc., announces the following new products: Polyform Blue RF, a formaldehyde-aftertreated direct color of particular interest as a ground shade on viscose rayon which is to be discharged; dyeings are of very good fastness to washing at 160° F., light, perspiration, and pressing.

Diagen Red Violet DR, a stabilized azoic printing color producing reddish shades of violet which possess good fastness to washing, laundering with chlorine, and hot pressing.

Sulfogene Brilliant Green 4GX Conc., a sulphur color which produces bright yellowish shades of green; it is similar in all its properties to the older type Sulfogene Brilliant Green 4GX except that it is much more soluble and is therefore better suited for use in circulating liquor type machines.

Sulfogene Brilliant Blue RCF, a sulphur color which possesses fastness properties similar to those of Sulfogene Brilliant Blue 3GCF, but producing redder shades of blue than the older type.

Diagen Bordeaux MR, a stabilized azoic printing color for cotton, producing a bordeaux shade which possesses satisfactory general fastness properties.

Diagen Red Violet DR, an azoic printing color producing reddish shades of violet similar in strength to those of Diagen Bordeaux MR but considerably bluer in shade.

Resin Emulsion Finishing Agents

Three new types of Methacrol methacrylate resin emulsion finishing agents have been announced by the Fine Chemicals Division, E. I. du Pont de Nemours & Co., Wilmington, Del. Methacrol BE is a stiffening and bodying agent that is compatible with polyvalent metal ions and with cationic surface-active agents. It is substantive to wool, silk, cotton, Nylon, viscose rayon, and acetate rayon. The substantive property is said to make it particularly suitable for use on knit goods and fabrics that cannot be handled on a padder or quetsch. When used with Zelan A in a combination bath, it modifies the soft hand produced by the Zelan.

Methacrol NH is a finish for Nylon hosiery which imparts snag-resistance and a delustered finish. It is a stable milk-white fluid dispersion that is compatible with metallic ions, but not with soaps or other soap-like surface-active agents. The finish adds body to the stockings to permit satisfactory packaging. It is durable to washing.

Methacrol SH is recommended for use either alone or in combination with Aridex WR and/or Aridex WP on silk hosiery. It has a strong delustering effect on the fiber, being more active in this respect than Methacrol NH. It can be used with starch or gelatin and Aridex, to obtain excellent water repellency and a good body.

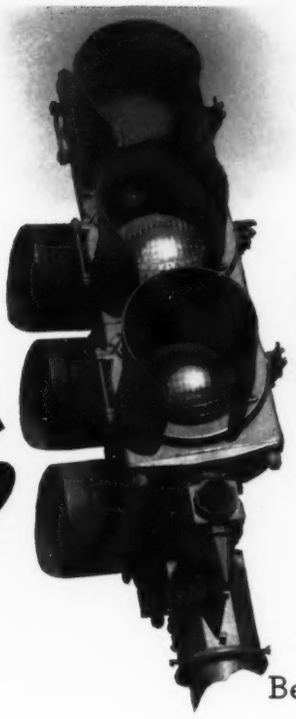
General Dyes

General Dyestuff Corp. announces the following new products: Immedial New Blue FBLA Extra CF, a sulphur color which yields exceptionally bright shades of blue; dyeings have very good fastness to light, washing, and pressing; and good fastness to fulling, storing, and mercerizing.

Alizarine Blue SAPR, an acid dyeing alizarine color which yields bright shades of a reddish blue; fastness to light is good.

Benzoform Blue GGA Extra, a direct color, which, when aftertreated with formaldehyde and acetic acid, produces navies of comparatively good fastness to washing, perspiration, fresh and salt water.

Benzo Viscose Blue GS Conc., a direct color producing an attractive,

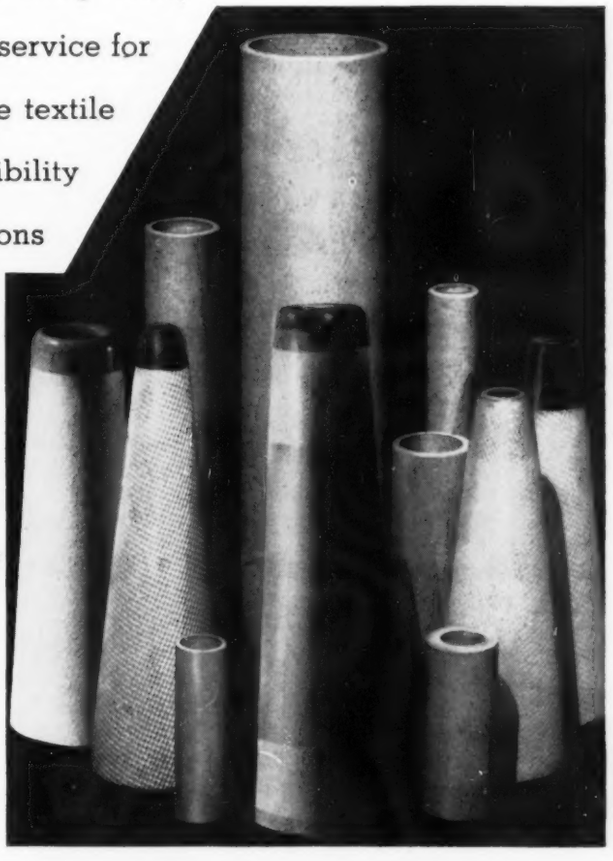


It's GREEN!

Business signals the "go-ahead." All signs are favorable for a successful business year—but,

Beware of the red danger signal in mounting costs, of inefficiency, of waste and of reckless speed—

At Sonoco, we continue the same deliberate efforts to improve our products and hold down manufacturing costs, that have characterized our service for many years. We share with the textile industry a very definite responsibility for greater efficiency in all operations wherever our products are used.



SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

bright blue shade, of comparatively good wash fastness, and good dischargeability; as aftertreatment with formaldehyde does not affect the shade and causes a slight improvement in wash fastness, it can be used in combination with Benzoform colors; aftertreatment with copper sulphate renders the dyeings slightly greener and duller and improves their fastness to light considerably.

Wetting Agent

A new type of wetting agent, known as Nekal NS, has been announced by General Dyestuff Corp., 435 Hudson St., New York. Nekal NS comes in the form of a clear amber-colored liquid which is miscible with water in any proportion. It was developed specifically for instantaneous wetting, even in a cold bath. Although definitely superior in wetting efficiency, Nekal NS does not possess the outstanding stability to acids and alkalis characteristic of Igepon T, Humectol CX, Nekal BX and Igepal C. It will be found most useful in neutral padding and for wetting gray goods and skeins. A feature cited for Nekal NS is its ability to rewet; that is, when dried into the fiber from a water solution, it imparts to the material the property of immediate absorption. This property is believed to be of particular value in the preliminary treatment of materials before printing or dyeing.

New Publications

A Boost for Salesmanship

SALESMEN BUILT AMERICA, by George A. Hughes; The Dartnell Corp., Chicago; $1.50.

"Salesmanship-appreciating" Americans will like this beautifully bound gift book of spirited sales philosophy. It is a simple collection of colorful experiences and interesting observations, written by the man who "sold" electric cookery to the American homemaker.

Mr. Hughes, who is now chairman of the board of the Edison General Electric Appliance Co., reminds us that if it hadn't been for some good salesmen by the names of Columbus and Washington there wouldn't even be an America. He also emphasizes that it took hundreds of salesmen to bring the contributions of the Edisons, the Fords, and the Morses within the reach of everyone in this great country.

It's a book to make any salesman proud of his job and proud of his place in the American scheme.

Labor Law Details

WHAT THE BUSINESS MAN SHOULD KNOW OF THE LABOR LAW AND ITS ADMINISTRATION; by J. Raymond Tiffany and Benjamin Werne; published by J. Raymond Tiffany, 25 W. 43rd Street, New York; 1 to 50 copies—50c each.

This pamphlet is an important contribution to industry's knowledge on the vital subject of the National Labor Relations Act. Its purpose is to review the responsibility of management to labor and the public in the execution of its trust in our economy, and to indicate how management should protect itself against unfair employee practices in order to preserve its right in the interest of all parties.

Mr. Tiffany is general counsel of the National Small Business Men's Association while Mr. Werne is editor of the Annual Survey of Economic Legislation.

Jim Cannon's Cotton Mill

CABARRUS REBORN, by James L. Moore and Thomas H. Wingate; Kannapolis (N. C.) Publishing Co.; $1.50.

Before the American Revolution, the part of Mecklenberg County, North Carolina, which is now known as Cabarrus was a prosperous farm region peopled by Scotch-Irish and Dutch settlers. As time went on substantial homes and well-kept farms testified to its increasing prosperity and in 1839 a group of Cabarrus County leaders "possessed of more money than wit" (according to a reporter of the day) subscribed $24,000 worth of stock and established the first cotton mill in the county. In less than a decade, however, the Civil War brought desolation and poverty to the South. Farming was suspended, industry ceased.

In "Cabarrus Reborn" the authors tell all this, and tell how that county has regained and surpassed its former glory and wealth through the leadership and business acumen of one man. The little book is really the story of Jim Cannon, his cotton mill and how it grew . . . and how it continues to grow under the management of Jim's son, Charles. And it is not a story of the building of a great and successful business as much as it is the story of how a big business can bring pleasant living to thousands of employees of the organization and millions of users of its products as well as new prosperity to a once prosperous farm county.

All associated in the textile business will enjoy reading "Cabarrus Reborn." It portrays another gratifying phase of the achievements of industry in the South.

A Story About Charlotte

THE CITY ON THE HILL, by Marian Sims; J. B. Lippincott Co., New York; $2.50.

The clash between the older generation and the younger; the struggle between city-fathers, dominated by greed and slothfulness, and a crusading solicitor, who, in his youthfulness, believes the City on the Hill can and should be cleaned up, is the theme of this very excellent novel. The disappointments and the joys of the young crusader, his experiences with politics and politicians, the efforts of the two girls who yearn for him and his love, these make the skeleton of the story. But it is filled with muscle, sinew and flesh composed of good repartee, modern-day philosophy, and the means of answering some of the city problems as well as the human problems involved.

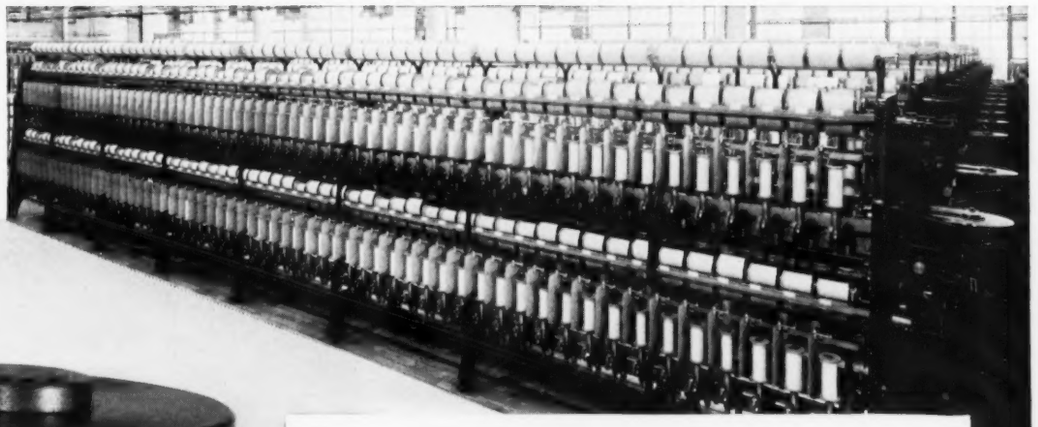
Marian Sims does a swell job of honest and straightforward reporting. Her characters are interesting people, her handling of them is adroit. And through this, her fourth novel, she definitely establishes herself as a corking good story teller and the South, as it actually is, as better than usual story material. This book will be especially enjoyed by people who through their textile connections know North Carolina, and Charlotte, which is so patently The City on the Hill.

News of Suppliers

Dayton (Ohio) **Rubber Mfg. Co.** is constructing a plant at Waynesville, N. C., for the exclusive manufacture of Dayton Thorobred loom supplies and Dayco cots. Building will be of brick and glass, one story, to cost $100,000. When new plant is ready, much of the Dayton textile-product manufacturing will be transferred thither.

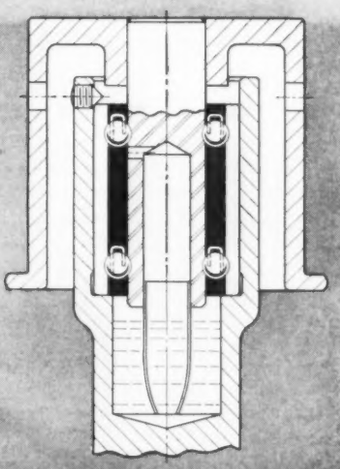
Aridye Corp., Fair Lawn, N. J., has appointed W. Hansot, formerly with various style advertising and merchandising organizations in this country and in France, to its organization in a merchandising capacity.

Haas-Miller Corp., Philadelphia, has appointed Alexander Mower to its research staff. Mr. Mower was formerly



● U. S. Textile Machine Company's Jumbo Double Deck Twisters are equipped with New Departure Self-Oiling Pulley Bearings for slight additional charge.

Inside It's Always *raining*



● Inside this Tension Pulley Bearing a continuous shower of tiny drops of oil keeps balls and races automatically lubricated *just the right amount*—for this "new departure" by New Departure contains its own oil-circulating system, a permanent, built-in feature enabling it to run for a year or more without attention. Thus, infrequent re-oiling is the only service needed.

And, like the many other New Departure ball bearings especially developed for textile machines, this bearing not only brings the advantages of easy maintenance and smooth, friction-free operation, but its freedom from wear assures that these highly desirable qualities are *permanently* retained. New Departure, a division of General Motors, Bristol, Connecticut.

NEW DEPARTURE

PIONEER OF THE SELF-SEALED BEARING

2955

GENERAL DYESTUFF CORP'S. new building in Charlotte, N. C., contains unusually complete facilities for offices, laboratory and warehouse. Above are views in laboratory (left) and in general offices (right). The building, which is at 2459 Wilkinson Blvd., is of concrete, steel, and brick, and utilizes glass block, terrazo floors, fluorescent lighting, air conditioning, and similar modern improvements. There is a large truck platform and a spur track railroad siding. General Dyestuff Corp. first opened a Charlotte office in 1926. The present facilities serve the textile and paper trades of the ten southern States. B. Anderson Stigen is the manager in charge of the southern division.

employed as research chemist of Sayles Finishing Plant, Saylesville, R. I.

Glyco Products Co., Inc., New York, despatched H. Bennett, director of research and development, on Dec. 20 on a trip to South America, where he will confer with company representatives and others actively connected with Glyco's business on that continent.

Consolidated Drug Corp. (Industrial and Textile Division), New Orleans, La., has appointed William A. Butler as chemical and textile consultant. Mr. Butler has operated for 20 years as the William Butler Co., Providence, R. I., manufacturing B.E.S.T., an emulsifiable solvent detergent.

Pennsylvania Salt Mfg. Co., Philadelphia, has purchased 50 acres on the Willamette River in Portland, Ore., on which it will erect a chemical plant. The first unit will be for sodium and potassium chlorates, and it is expected that later the plant will be increased to produce various chemicals by electrolytic and other processes. Chipman Chemical Co., Bound Brook, N. J., will cooperate with the salt company in the sale and distribution of sodium chlorate.

Revertex Corp. of America, Brooklyn, N. Y., has removed its offices, laboratory, and compounding plant, to 37-08 Northern Boulevard, Long Island City, N. Y., where larger quarters are available.

Danielson (Conn.) **Mfg. Co.** has appointed John E. Holt as treasurer and director of the company. Mr. Holt was until recently general manager in charge of European and Asiatic Divisions of International Business Machines Corp. For the last year he has been sales manager of I.B.M. in the United States.

School of Design in Chicago, L. Moholy-Nagy, director, Chicago, Ill., will open its spring semester on Feb. 3.

Pittsburgh (Pa.) **Plate Glass Co.** reports that its number of employees reached an all-time high of 17,884 during October, 1940, compared with an average employment of 15,609 in 1939. H. S. Wherrett, president of the company, reported a substantial increase in business of the company during 1940 and an expansion of manufacturing facilities in several directions. The sale of the company's chemicals will hereafter be handled by the Columbia Chemical Division. Eli Winkler, executive sales manager, and W. I. Galliher, director of sales, retain their capacities.

American Bemberg Corp., New York, has extended its testing program, in cooperation with U. S. Testing Co., from woven dress goods to include all fabrics woven or knitted, in whole or in part of Bemberg rayon. Fabrics are tested on basis of Commercial Standard CS59–36 and only such fabrics may be sold under the Bemberg "certified" tag.

Caron & Patterson, Chicago, dissolved partnership on Nov. 30. Office of O. J. Caron will hereafter be at Rochelle, Ill., where he is president of the Caron Spinning Co., and office of C. M. Patterson will be at 222 W. Adams St., Chicago. The latter will continue representation of the following mills: Falls Yarn Mills, James Lees & Sons, Newnan Cotton Mills, New England Spun Silk Corp. and A. M. Smyre Mfg. Co.

Alemite Division of Stewart-Warner Corp. held its 25th national convention at the Edgewater Beach Hotel, Chicago, early last month.

Sherwin-Williams Co., Cleveland, Ohio, has elected Arthur W. Steudel as president succeeding George A. Martin who becomes chairman of the board. Mr. Steudel entered the employ of the company in 1908 as an office boy.

Chemicals for Industry, Inc., Irvington, N. J., has leased a manufacturing building at 88 Colt St.

National Association of Textile Machinery Manufacturers, formerly at 38 Chauncey St., Boston, has moved its office to Whitinsville, Mass. E. Kent Swift, of Whitin Machine Works, is president.

Union Carbide & Carbon Corp. will build a plastics plant at Bound Brook, N. J., for production of Vinylite. Plant will be 580x250 ft., costing several million dollars; it will be completed in nine months.

Comprehensive Fabrics, Inc., New York, has opened new sales offices at 350 Fifth Ave. The concern handles the licensing and national distribution of fabrics utilizing the B. F. Goodrich Co.'s synthetic, Koroseal.

United States Testing Co., Hoboken, N. J., has been retained by the Consumer Service Bureau of *Parents' Magazine* as technical adviser and to do the majority of its testing.

Von Schrader Mfg. Co., Racine, Wis., has been licensed as sole manufacturer and selling agent by Bigelow-Sanford Carpet Co. covering distribution of Dri-Sorb-Ene, a cleaner developed by the carpet company for cleaning rugs and carpets on the floor.

Rayonier, Inc., New York, announces that there will be no increase or change in their dissolving and paper pulp prices for the first quarter of 1941.

Monsanto Chemical Co., Organic Chemicals Division, has transferred Clare F. Trombley, in charge of sales of organic chemicals and phosphate

"... and we're getting fewer seconds since we began knitting with T M W Needles."

ALFRED L. HUTTON, JR., president of Hemphill Co., Pawtucket, R. I., manufacturers of the Banner hosiery machines, who has been elected president of the association of Knitting, Braiding and Wire Covering Industries and Trades, succeeding the late Walter L. Toy, former president of Scott & Williams, Laconia, N. H.

division products at the Everett, Mass., office, to New York, where he will be assistant general branch manager of the company's district sales office there. Mr. Trombley succeeds F. C. Renner, who has been appointed assistant manager of sales of Monsanto's organic chemicals division with headquarters in the company's home office in St. Louis.

Cowles Detergent Co., Cleveland Ohio, is changing the name of its pentahydrate sodium metasilicate from Escomet to Crystamet. Quality, price and package remain the same as before.

Hygrade Sylvania Corp., reduced list prices, effective Dec. 1, of the new 14-watt Hygrade fluorescent lamps.

Wiremold Co., Hartford, Conn., has its new plant addition in full operation. The new facilities include special equipment for lighting units.

C. O. Bartlett & Snow Co., Cleveland, Ohio, has appointed M. P. Hofman as manager of research and sales of its new Colloid Mill Department. Mr. Hofmann in 1936 developed the Manton-Gaulin two-stage mill and, working in the Bartlett-Snow laboratory, has developed a new mill, using a three-stage principle.

Richards & Geier, New York, are offering a new abstract service in connection with patent and technical literature for the textile industry.

American Supply Co., Providence, R. I., has appointed Raymond D. Robertson of Bristol, R. I., as sales representative in Massachusetts, Connecticut and Rhode Island, and James J. Fine of Barrington, R. I., as sales representative in Maine, New Hampshire, Vermont and New York. These men are taking over the territory of the late William A. Gould who represented the company for the last 20 years.

JOHN EKERN OTT with Acme Steel Co., Chicago, for 18 years, has been appointed manager of the company's Archer Plant where he will be in charge of production, warehousing, shipping, maintenance and engineering. W. C. Childress, formerly in charge of production and engineering at the Archer Plant, has resigned.

S. Blickman, Inc., Weehawken, N. J., which firm's name was associated with that of James L. Pike in a recent issue, states that Mr. Pike has no connection of any kind with the Blickman company.

ELMER F. ANDREWS, former United States Wage and Hour Administrator and former Commissioner of Labor for the State of New York, who has opened a consultation office in the field of Labor Relations at 500 Fifth Ave., New York. The consultation offered is designed to assist employers in reviewing their labor policies and labor costs, in creating employee good-will, and in preventing unrest among the workers.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn., has appointed Clinton D. St. Clair as works manager of their Hancock Valve Division Plant in Boston.

Edward F. Korbel and **Worth Colwell,** counsellors in public relations, 570 Lexington Ave., New York, have augmented their staff to include a technical publicity department, functioning separately from their other activities.

Atlas Color & Chemical Co. has removed its offices to 11 Wharf St., Boston, Mass. The works are at Roxbury, Mass.

SKF Industries, Inc., Philadelphia, are erecting an addition of 56,200 sq.ft. of floor space to Plant No. 2, on the Pennsylvania Railroad at Bridge Street.

CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass., has established this new warehouse at Charlotte, N. C., for service to the southern territory, offering prompt parts deliveries to help mills carry reduced inventories. Over 12,000 different parts are stocked. The new warehouse and office are at 1505 Hutchison Ave.; the former location was at 301 South Cedar St. The following sales representatives have headquarters at Charlotte: Messrs. Howe, Joslin, Deal, Desmond, Irvin, Burgess, Graham and Griffith.

Purchasing Agents Meet

Carolinas-Virginia Purchasing Agents Association met in Charlotte, N. C., Dec. 6, with approximately 200 members registered. At the meeting an open forum discussion on problems of textile, chemical, and other industries was held and buyers' problems were discussed by J. J. Barnhardt, vice-president, Cannon Mills Co., Kannapolis, N. C.; Geo. A. Howell, Jr., purchasing agent, the Rock Hill (S. C.) Printing & Finishing Co.; E. T. Taylor, purchasing agent, North Carolina Finishing Co., Salisbury; and J. M. Geer, purchasing agent, Marshall Field & Co. Manufacturing Division, Spray, N. C.

"Surgeons cut that they may cure"

GERMAN PROVERB

In a 40-hour week the new READING high-production twenty-six section forty-five gauge full-fashioned knitting machine produces 97 per cent more volume and 116 per cent more value than the ordinary twenty-section forty-two gauge machine . . . *And remember: Money invested in modern machinery not only pays big dividends of itself but also serves as insurance for your total investment.*

TEXTILE MACHINE WORKS • READING, PA.

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Rayon Sizing. Charles B. Johnson Machine Works. December issue of *Rayon Warp Sizing Specialist* contains articles of interest to weavers of rayon.

Knitting Machinery. Wildman Mfg. Co. Two illustrated folders contain samples of fabrics knitted on interlock machine; one discusses the potentialities and wide range of fabrics which can be made, other mentions altering existing rib machines to make true interlock fabrics.

Capacitors. Westinghouse Electric & Mfg. Co. Data book 49-060 gives data on capacitor applications in industrial plant circuits; contains theoretical data, formulas, tables, charts, etc.

Hoists. Wright Mfg. Division, American Chain & Cable Co., Inc. New catalog contains useful information on hoisting; tells where hoists can profitably be applied, and gives data on various types available.

Speed Control. Reeves Pulley Co. Catalog G-397 contains 124 pages of data on speed control units; covers both those built into units by manufacturers, and those installed on machines already in service.

Cotton Equipment. Saco-Lowell Shops. October issue of *Saco-Lowell Bulletin* contains numerous articles of interest to cotton manufacturers; metallic roll, tape-tension pulley, Nitritex top rolls, and high-speed slasher are among new items described.

Electrical Equipment. General Electric Co. 20-page booklet titled "Electricity at Work in the Textile Industry," designated No. GES-2451, gives brief descriptions of electrical equipment for preparatory, weaving, knitting, finishing, and rayon yarn production equipment.

Wool Equipment. Davis & Furber Machine Co. November issue of *Davis & Furber News* stresses importance of modern machinery, describes briefly a gradual modernization program, overhauling of machinery, rearranging of departments, and other associated factors.

Roller and Ball Bearings. Link-Belt Co. Data Books No. 1775, contains 88 pages of information on various styles of roller and ball bearings in antifriction types; also included are tables of sizes, dimensions, weights, and prices.

Finishing Compounds. Rohm & Haas Co. Booklet contains 20 pages of data bringing up to date information on Rhoplex resins for finishing textile fabrics; gives brief data on characteristics of the compounds, methods of application, etc.

Diesel-Electric Sets. Caterpillar Tractor Co. Literature describes use of diesel-electric sets for production of electric power; stresses inexpensiveness of operation, flexibility of use, and dependability.

Air Cleaners. Westinghouse Electric & Mfg. Co. 4-page folder illustrates and describes Precipitron electrostatic air cleaning equipment for removing harmful dirt from the air; lists applications where this equipment is advantageous and gives capacities of a number of installations already made.

Chemical Products. Niagara Alkali Co. December issue of *The Pioneer* contains brief article discussing methods of treating textile wastes to prevent stream pollution; also a variety of other articles of general interest.

Weft Straightening. General Electric Co. 4-page leaflet No. GEA-2566A pictures and describes company's application of photoelectric tubes to detection and correction of skew in fabrics.

Looms. Crompton & Knowles Loom Works. Booklet poses eight questions concerning economical loom operation, and urges mills to survey their present equipment to determine what advantages installation of new looms would give; analysis sheets are included in the booklet.

Compressors. Worthington Pump & Machinery Corp. Single, horizontal, two- and three-stage compressors are described, respectively, in Bulletins L-611-B11A and L-611-B12B; drawings and illustrations of the equipment are included, as are data on specifications.

Roller Bearings. Hyatt Bearings Division, General Motors Sales Corp. Bulletin pictures and describes machines using roller bearings as standard equipment; included are a variety of yarn-producing machinery, and illustrations of how loom bearings are utilized.

Process Oil. E. F. Houghton & Co. "The Role of Oil in Processing Synthetic Fibers" is discussed in an article in the November-December issue of *The Houghton Line*.

Bag Closure. Fidelity Machine Co. Reprint of technical article describes new system of cotton bag closure developed and manufactured by subject company.

Electrical Instruments. General Electric Co. Brief data on a variety of instruments and time switches, together with a picture of each, is contained in Bulletin GEA-2753.

Flow Meters. Brown Instrument Co. Electric flow meters for the measurement and control of steam, air, oil, water, chemicals, and other fluids are described in catalog No. 2007, which includes schematic diagrams of construction and descriptions of design features.

Electric Motors. Reliance Electric & Engineering Co. Four pages are devoted in Bulletin 119 to description of squirrel-cage induction motors for two- and three-phase a-c. circuits for 220, 440, 550, and 2,200 volts.

Gages and Recorders. Republic Flow Meters Co. Bulletin No. 801 describes multipoint draft and pressure indicator; included are photographic and diagrammatic illustrations.

Refractories. General Refractories Co. 48-page booklet, printed in both English and Spanish, contains descriptive information on many types of refractories and their uses, and other interesting data.

Creaseproofing. Calco Chemical Division, American Cyanamid Co. Technical Bulletin No. 558 relates to Aerotex cream No. 450 for creaseproofing and describes suggested methods of applying; Bulletin No. 552 is a companion publication listing dyes which may be used in combination with the creaseproofing material.

Fire-fighting Equipment. Pyrene Mfg. Co. Volume No. 22 of *Firefax* contains article describing manufacture of cotton fabrics by Pepperell Mfg. Co.; photographs of several fires in industrial buildings, including textile; and data on operation and application of fire extinguishers.

Heavy Chemicals. Cowles Detergent Co. Leaflet describes three products useful in kier boiling, general cleaning, and other applications where detergents are used.

Hoisting Equipment. Coffing Hoist Co. Catalog No. TG-4 gives information, specifications, prices, etc., on line of high-efficiency hoisting equipment for lifting and pulling jobs, in capacities ranging from 250 to 4,000 lb.

Chemical Products. General Chemical Co. In a 140-page, spiral-bound book data is given on a wide variety of chemical products produced by the various divisions of this company; properties, strength, uses, and other data are given for each of the various acids, sodium compounds, or other chemicals covered.

Card-Clothing Protection. Dings Magnetic Separator Co. 4-page bulletin illustrates and describes company's magnetic separator for removal of tramp iron from various raw stocks; highlighted are the facts that damage to card and garnet wire is reduced, as is the possibility of fire resulting from sparks.

Textile Machinery. Curtis & Marble Machine Co. Bulletin No. 200B is a pocket size guide to woolen preparatory machinery, finishing machinery, and miscellaneous equipment produced by this organization for the textile industry.

Control Instruments. Foxboro Co. Three illustrated mailing pieces discuss respectively, relative humidity instruments for the textile industry, hosiery dyeing machine controls, and temperature control equipment for dyeing and boarding equipment.

Organic Chemicals. Carbide & Carbon Chemicals Corp. Tenth edition of "Synthetic Organic Chemicals" gives reference data on properties and uses of 142 industrial organic chemicals; included are data on 66 products not described in any previous edition.

WE DON'T TRUST HUMAN EYES...TO GIVE YOU DUST-FREE LYKOPON

Each batch of Lykopon must pass the critical and unerring scrutiny of a photo-electric eye. Through this control measure you are assured a dust-free sodium hydrosulfite.

Freedom from fine particles gives Lykopon two important advantages over ordinary hydrosulfites. Lykopon holds its strength on storage for a much longer period of time. Lykopon eliminates the dust problem in your dye house—no more irritation of eye, nose, or throat—no more speckiness of fabric.

The photo-electric test typifies the exceptional care taken in producing Lykopon. Each step in the manufacturing process is carefully standardized and controlled. Every measurable characteristic of the finished product is checked against a rigid and superior standard. The painstaking care that goes into the manufacture of Lykopon results in a hydrosulfite of the highest purity and maximum strength.

The photo-electric cell—industry's magic eye—now gives you dust-free Lykopon. In the dust chamber, the Lykopon is subjected to violent agitation and the maximum amount of dust raised is accurately recorded. Your Lykopon must pass this severe test within narrow and exacting limits.

LYKOPON

(Sodium Dithionite)

Extra Strength...Extra Purity—that margin of safety for perfect dyeing

Write for catalog, "Textile Chemicals"

RÖHM & HAAS COMPANY

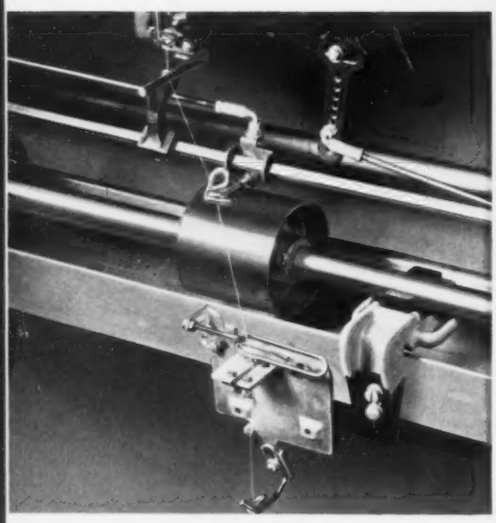
WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Leather and Textile Chemicals, Specialties, and Finishes . . Crystal-Clear Acrylic Plastics . . Synthetic Insecticides . . Fungicides . . and other Industrial Chemicals

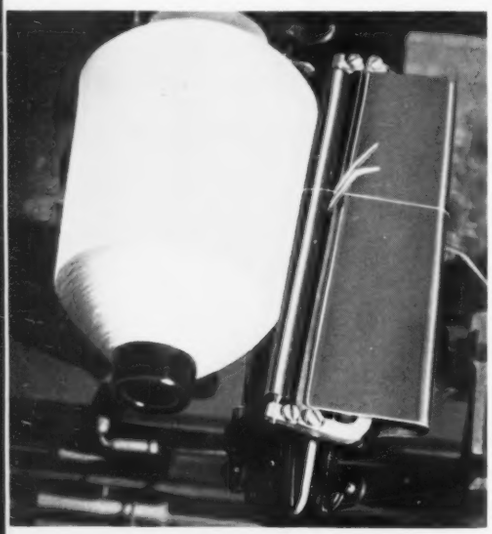
BIGGER PACKAGES OF NYLON

Wound on No. 50 Precision Winders for Full-Fashioned Knitting

From Sizing Tube of Nylon . . . A sizing tube that delivers freely on the winder will produce the best Pineapple Cones for knitting.

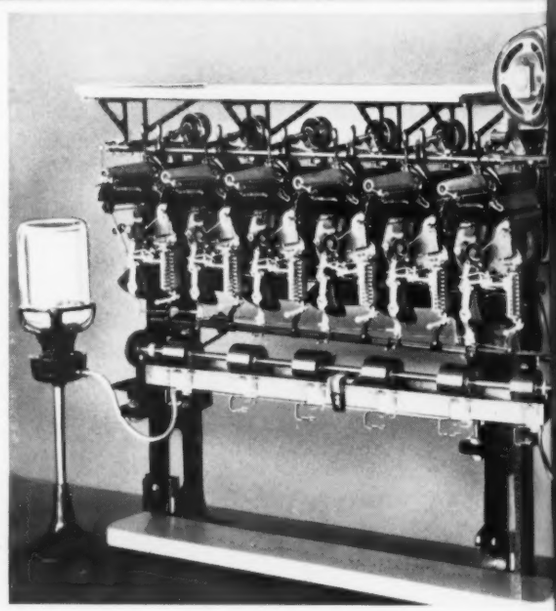


Over New Nylon Emulsion Roll . . . The yarn passes through special dampener tension controls and yarn cleaner before it contacts the front of the Roll.



To the Pineapple Cone . . . The Pineapple Cone shape can be changed by adjustments on the Pineapple Cone Attachment for Nylon. Note roller bail contacting surface of package.

Again in 1940, more than 90% of the new machines purchased for winding silk and rayon were No. 50 Precision Winders. 1941's requirements for winding Nylon, as well as silk and rayon, can be met most successfully by precise winding onto Universal Cones.



LEESONA*

*Reg. U. S. Pat. Off.

UNIVERSAL WINDING COMPANY

Providence, Rhode Island

THE OVERSEERS' CORNER

THIRD SHIFT EFFICIENCY

A PETE & BILL DISCUSSION

Pete was headed for the master mechanic's office when he bumped into Bill leaving the shop. One glance and Pete knew something was wrong with Bill again. The latter was pulling out what was left of his hair and throwing it on the floor. Purple veins were standing out on his forehead.

"The master mechanic says he's going to resign, and I don't blame him if he does!" shouted Bill at Pete without waiting for his friend to inquire what was wrong. "It's that third shift again. Last week they had 42% more machine break-downs than both the other shifts together. The master mechanic says that if I don't get better help on that shift he's quitting. It's working his men to death and driving me crazy. I'm on my way to fire the second-hand and anyone else who gets in my way!"

"Calm yourself, Bill, calm yourself," said Pete. "Just cool off a minute and think this thing over. Maybe it isn't the help at all. You know conditions change a great deal late at night; maybe the workers are not responsible for all of these break-downs."

"Yes, they are responsible," spluttered Bill. "They're a good-for-nothing bunch to begin with. Don't tell me it's the machinery."

"Well, Bill," said Pete soothingly, "if it will make you feel any better I've had much the same trouble in my own department on the third shift. However, I checked up and found that the power increased at night when outside loads were taken off the line. This caused my machines to run faster and break down more often. Also, the additional humidity at night causes the belts to tighten up and add still more speed to the machines. Why, one night I happened to check up on an electric clock and found it had gained 20 min. due to power irregularity on the line. You can't blame those things on your help."

"There may be something in what you say, Pete," said Bill, "but I still think I've got a lousy bunch of workers, and I'm going to fire somebody yet."

Bill was leaving the master mechanic's shop

What causes extra break-downs on the third shift?

Letters From Readers

Learner Law Troubles

"Draft & Labor Shortage" Pete & Bill, Nov., 1940

Editor, Overseers' Corner:

I feel exactly like Bill does concerning the complications which have resulted from the learner-training phase of the wage-hour law. It is practically impossible to get certain types of skilled labor today due to the defense program, and young people seem no longer anxious to learn a textile job. Although most mills are running full time the price is weak on certain constructions, such as print cloths, and the mill cannot afford to run its cost up any more by paying learners full wages for several weeks when they are not producing and actually are making waste at times. If the managers of the various plants do not get together and work out some method of getting this law modified the overseers are going crazy.

A. G. W.
(*Georgia*)

Textile Jobs Must Be Made Attractive

"Draft & Labor Shortage" Pete & Bill, Nov., 1940

Editor, Overseers' Corner:

Pete is right that the mills are going to simply have to make the ordinary jobs more attractive to retain help in the future as the people are getting better educated and demand more. It is up to the mill to put equipment in condition so that the workers have good-running work at all times under sanitary, comfortable conditions. Next, an effort should be made to even out the employees' earnings over a period of a year so that he can plan his budget in accordance with anticipated earnings. Most workers would rather have steady work and a reasonable, sure income than a temporary high-paid job, such

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

FRANK LOCKMAN, BIRD HUNTER

A few weeks ago TEXTILE WORLD'S roving reporter dropped in to see Frank D. Lockman, superintendent of Monarch Mills, Lockhart, S. C., and president of the Southern Textile Association, intending to have a serious talk about spinning and weaving problems. He came away with considerable information, but little of it had to do with mill operation.

Opening what we thought was going to be a superintendent's notebook filled with a lot of data on speeds and settings, Mr. Lockman checked back to 1922 and informed us that he and his buddies of that period shot from 800 to 900 quail a season, but that over a period of years the kill has dropped down to where they are barely getting 300 quail at the present time. We asked if there were a shortage of birds today, and he said that there are more birds than ever before but that he simply does not have time to hunt as much.

Any man who keeps a notebook full of facts like these undoubtedly has lived a full and interesting life, so we asked Mr. Lockman about his past experiences. It seems that he was born near Spartanburg, S. C., where his father was overseer of slashing in the Converse plant. He ran off at the age of sixteen to Lynchburg, Va. Later he moved to Fall River, Mass., where he worked in King Philip Mills about a year. The weather got a little cold in Massachusetts, so in 1901 Mr. Lockman headed back South and took a job at Pepperell Mfg. Co., Lindale, Ga., under the late Captain Meikleham. He apparently liked it there very much as he remained until 1910 as overseer of weaving, acquiring a wife in the meanwhile. Later he went to Huntsville, Ala., where he worked for Merrimack Mfg. Co., resigning after a short time to become overseer of weaving and assistant superintendent at Lincoln Mills. In 1914, Mr. Lockman went to Lockhart as overseer of weaving, where he has been ever since, one of the advantages of the job being the fine bird hunting mentioned previously. He became superintendent in 1915. Long active in the Southern Textile Association, he became president in 1940.

Photograph at left shows Frank D. Lockman (center), his son Frank D., Jr., overseer of weaving, and J. R. Fant, Jr., son of Monarch Mills' treasurer. Mr. Lockman wanted to name his son "Bill" but his wife preferred Junior, so they named him F. D., Jr., and call him Bill.

Photograph above shows Mr. Lockman and two of his four bird dogs. He used to keep from 30 to 40 fox hounds.

as Government defense construction offers. But if the mills do not realize this and take steps to offer the employees such security, they can expect an ever-increasing labor turnover.

W. W. H.
(*Mass.*)

Regular Inspection Pays

"Superstitions and Shutdowns"
Pete & Bill, Dec., 1940

Editor, Overseers' Corner:

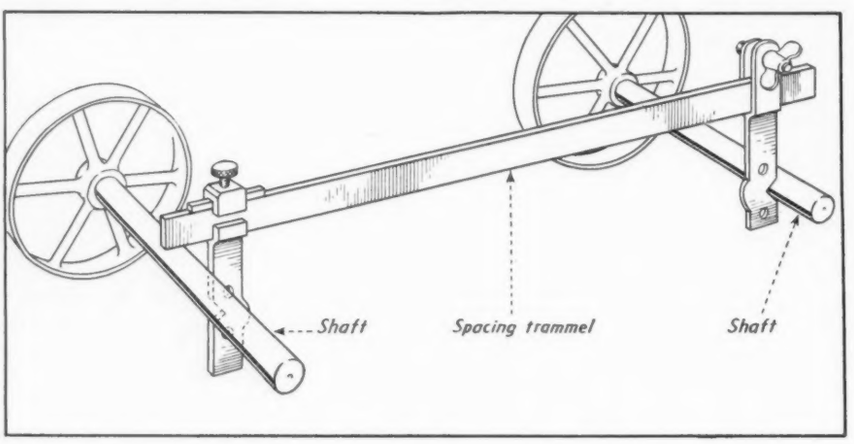
As usual, Pete is right when he says that fixers should watch for weak spots instead of being content to fix parts which already are broken. One of the most important features of modern mill management today is regular inspection and replacement of worn parts before there is an actual machine shutdown. Some mills have figured out what they consider the normal life of certain parts and replace all of these parts at one time throughout the mill.

T. C. W.
(*Alabama*)

Overseers' Practical Helps

Spacing Trammel

For spacing and aligning shafts and machines, a spacing trammel is a very useful and valuable device. The trammel shown in the sketch is made from $\frac{3}{16}$x1$\frac{1}{4}$ in. cold rolled steel, and can be fitted with either type of sliding arm, as illustrated. By drilling and tapping the arms for scriber points,



the device can be quickly converted to a layout tool.

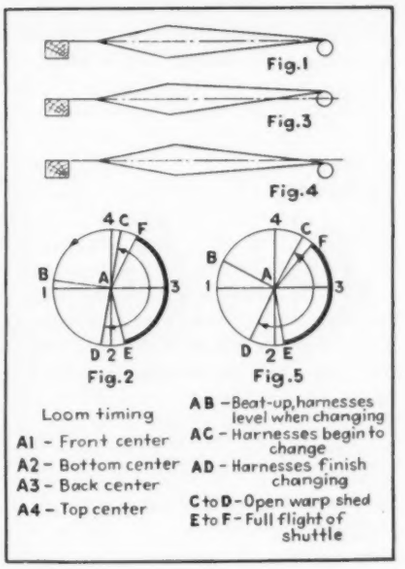
Chas. H. Willey (*N.H.*)

Filling Pulling Off

Besides being very annoying to the weaver and fixer, a loom pulling off filling often causes major defects on the cloth, such as slubs and even warp smashes. If filling is wound on bobbins correctly, pulling off can occur only because of excessive pick or insufficient check. However, the tension necessary to wind certain kinds of soft filling tightly on the bobbins would change the nature of the yarn. In this case, the pick from left-hand boxes must be only hard enough to prevent the loom from banging off and to insure the proper working of the magazine, and there must be sufficient check in the right hand box. If the filling still pulls off, make the shuttles enter the left-hand boxes harder, either by picking harder from the right-hand box or by reducing the check in the left-hand boxes. This will pound the filling tighter on the bobbins. Check in left-hand boxes can be reduced by reshaping the binders, shortening the check strap, or using more and harder bumper.

Some looms, such as the 4x1 Crompton & Knowles worsted automatic, having boxes much longer than the shuttles, do not need a check strap because they have a roll of cloth or leather in the cavity of the box-guide holder. By making this roll bigger, the check can be reduced, and by reinforcing it with hard leather the shuttle can be made to hit harder. This bumper, being back of the picker head, also prevents the picker from wearing crooked in its spindle hole. Sometimes filling pulls off the bobbin in only one or two shuttles. Loosen or reshape the binders of the boxes of these shuttles only. When a check is used on the box side of a loom, have this strap only short enough to prevent the shuttles from rebounding.

C. S. B. (*Penna.*)



Off-shade and Weak Army Fabrics

British experience indicates weave shed may be responsible for non-uniformity

By G. APPLEYARD

IN PRODUCTION of Government and like woolen cloths of solid color, which undergo a thorough test and examination for strength, shade, and weight, it has been found in England that a number of pieces are rejected for not conforming to specification. These rejects are usually due to defect in strength or shade. It is often the case that a manufacturer will have one or two rejected pieces out of a delivery of 100 pieces, all made from the same blend of material, carded and spun on one particular carding set and mule, the weaving carried out on 20 looms, all of the same make, and during the finishing operations every piece having had the same treatment. Hence it is a problem for the manufacturer as to where and when the defect in the rejected piece has occurred.

Assuming that blending and spinning have turned out a suitable yarn, defects which appear must have occurred in weaving or finishing. It is these processes with which this article deals. From tests and observations made, it is obvious that the fault which occurs in some rejected pieces of woolen goods arises from irregular warp tension, combined with different timings of looms in relation to one another.

Although looms may be of the same make and dimensions, weaving cloth of the same yarn, same ends and picks per in., and same reed width, they will not all produce the same identical fabric unless there is equal regulation of the amount of tension on each warp beam during weaving. Timing of opening and closing the shed in relation to beat-up can be adjusted by the loomfixer to make all looms alike, but for warp tension many mills operate by a rule of thumb; that is, feeling on the warp the effect of the beat-up against the fell of the cloth.

In general practice in weaving standard woolen cloths, with equal warp lifts, such as a two up, two down twill, twilled hopsack, etc., in open-shed dobby looms, there is usually equal stress in both top and bottom shed lines, and the shed is timed to be closed at the beat-up. The amount of tension usually placed on the warp should be sufficient to counteract the reaction after beat-up. Fig. 1 shows the center warp shed line level with the back roll and the breast beam, and Fig. 2 indicates the crankshaft circle of timing, showing the closing of the warp shed at beat-up B. Under these conditions the woven cloth has equal distribution of warp and filling on face and back.

Alterations are sometimes made by a loomfixer which interfere with this routine. For example, if there are some knots in the warp and the reed is breaking them, it is the practice to raise the harnesses to allow the knots to come further up the dent in the reed; this allows the reed wire to give and permits knots to weave through. However, when the shafts are raised, the bottom shed line is relieved of some tension, which is taken up by the top shed line; ultimately more filling is forced on to the back of the fabric than the face. In a shot effect this would result in a difference in the shade of the piece. Secondly, if the cloth was napped, such a piece would test weaker warpwise, as the warp would be more prominent on the face than in other pieces. The filling yarn usually bears the brunt of napping, and if the warp has been thrown to the face of the cloth, it is bound to suffer.

It is known also that by raising the back roll and the breast beam a slack top shed is obtained, thus giving a chance for the filling to roll on to the face of the fabric and give cover to the piece. Fig. 3 shows a slack top shed line, while Fig. 4 indicates a slack bottom shed line. This latter, is, of course, unusual, except in cases where cloths are woven upside down or on negative dobby looms.

With reference to the closing of the shed, to beat-up with a crossed shed as shown in Fig. 5 enables heavy filling cloths to be woven without fear of picks slipping back and making the beat-up difficult. When a slack top shed and a crossed shed beat-up are combined, the fabric is usually wanted for a raised finish. The warp is usually entirely

Abstracted from Textile Manufacturer.

buried, only the filling being visible on the face; therefore it is essential that the warp ends should be tensioned the same throughout every loom, or different amounts of filling may be thrown on or off the face.

FROM MANY TESTS made it is evident that excessive warp tension is detrimental to a fabric, both in the gray and finished cloths. Medium tension of the warp in compact structures gives satisfactory results, but on the more open structures the filling has a tendency to have the most prominence on the face of the fabric.

Light or slack-tensioned warps give increased surface cover to the fabric and greatly improve the handle. However, in compact or maximum texture cloths the reaction after beat-up has a tendency to give unevenness in the cloth; therefore there is a danger of getting shady pieces of varying depth. In more open structures there is little danger of this occurring.

One point clearly noted was that heavily tensioned warp patterns after finishing gave a very definite filling face. This was probably due to the stretched warp yarns shrinking more than normal or slackly tensioned yarns, and therefore drawing the picks of filling nearer together and giving a greater density of filling per unit area, as compared with other patterns.

In conclusion, these tests indicate it is essential that cloths of any one class and shade which are produced on a number of looms should have the same amount of warp tension, depth and angle of shed, and beating-up in relation to the shedding. Otherwise, pieces are likely to vary in shade and strength.

Handling Materials

Discussed at Eastern Carolina Meeting of S.T.A.

HANDLING, ROUTING, AND METHODS of conveying stock within the plant were discussed at the fall meeting of the Eastern Carolina Division of the Southern Textile Association. W. H. Miley, Jr., superintendent of Mill No. 2, Erwin (N. C.) Cotton Mills Co., presided as chairman. P. B. Parks, Jr., superintendent of Erwin Mill No. 5, led the discussion.

It was agreed that the ten most important objectives in handling materials within the plant are as follows: (1) least possible human effort, (2) safety of the workers, (3) least damage to stock, (4) least mixing of stock, (5) economic unit from standpoint of transportation and use, (6) shortest route, (7) smallest number of operations, (8) elimination of lost motion or empty haul, (9) least damage to building and equipment, and (10) avoidance of traffic congestion.

In order to reduce handling to a minimum, the opening room should be located between, and as close as possible to, the warehouse and the picking room. It is more economical to have a small force of men working in the opening room all the time than a large force working spasmodically. One member reported that he reduced a part-time force of thirteen men to a full-time force of two men and the saving "was staggering." The two men feed 27 hoppers.

By means of an electric hoist bolted with two U-bolts to a column and a 100-ft. rope equipped with a pair of grabs (and going through an I-bolt against a girder) nine men are able in a day to move 800 bales of cotton. One man operates the hoist, two men with hooks handle the bales, and six men on top of the stack place them. Another member reported that he packs cotton in a similar manner by using an old automobile in place of the hoist, operated backwards and forwards to lift and move the bales.

Wrapping laps with heavy paper prevents their being torn up by air drafts in elevators.

A platform lap scale on a track in front of the pickers was said to be as accurate and to require less adjusting than the cradle-type scale. The platform scale does not damage the lap so much and the track reduces vibration.

Several members reported the use of lap trucks which carry three laps horizontally on each side. These trucks are very narrow and have hooks as high up as a man can reach. The trucks stand on the spare floor when not in use. Another member reported the use of a truck 9 ft. long which carries six laps standing on end.

Chairman Parks said that the ideal mill layout would be for the picker room to be at one end of the mill, followed by the card room with a line of cards the full length of the room. Next would come the sliver lappers or the drawing frames, and then the roving processes. Another system would be to have the cards in lines with the ends accessible to the picker room, and the sliver lappers and drawing frames with the ends presented to the ends of the cards so that the cans could be pulled into position without obstruction. Next would come the roving frames.

Every mill should have somewhere near the center of each room a wide, clear alley for movement of large, heavy objects. Also, thought should be given to placing of the elevators.

A. E. Barneycastle, overseer of carding and combers, Eno Cotton Mills, Hillsboro, N. C., reported that he moves twelve 12-in. card sliver cans by tying a rope around them and pulling them along a 20- to 25-in. alley. The sliver is crimped in at the top to prevent spilling out. Several members reported that five cans is the greatest number which can be pushed successfully along the floor, and this depends on the condition of the floor.

Roving, it was agreed, should be kept in boxes for cleanliness and should be stacked for efficiency. If it is laid on the floor it should be covered. Mr. Parks pointed out that it costs money to lay roving on the floor and pick it up, and that boxes will soon pay for themselves in labor saving and improved quality of work.

In order to use roving in regular rotation it was recommended that a sectional bin with doors be used with a sign on each door saying, "Take roving here" or "Put roving here." The signs are moved along continuously.

A rack in the bottom of a roving bin has some advantages, but when air is used on the floor trash is blown up into the work.

A member reported that electric trucks with as many as eight trailers are used in his mill to haul bobbins, empty loom beams and filling. Empty quills and bobbins—colored to designate different yarn numbers—are caught at the winder in canvas baskets, which are nested when empty.

Beams are removed from the warper in another mill by means of a cradle truck that slips under the beam in front of the warper. The beam is trucked to a track in a storage room and rolled off the truck on to the track and to a point of rest until needed. The track is sectional, so that any beam can be easily removed by rolling the beam back on to a truck and hauling it to the slasher where it is raised with a hoist.

Another member reported that in his mill it is the practice to make use of a system that is quite similar, except for the fact that the beam is left on the truck during storage. Eight loading operations were cut out by having enough beam trucks to leave in storage when loaded. This practice also lessened

the breaking of beam heads and reduced the number of hernia accident reports.

It was pointed out that it is feasible to have a truck for every beam when a relatively small number of colors is used, but where 50 or more colors are common, it is not economical to have a truck for every beam.

It was suggested that use of an overhead electric crane for handling beams stored back of the slashers is useful where a large number of different colors are in process. In one case, the girder was extended all the way across the room to the spare floor so that the same crane could be used in different parts of the room. Cross tracks make this crane even more versatile.

Most of the members complained that they have trouble with traffic in the weave shed due to filling haulers and fixers bumping into each other. Two mills reported handling from 100 to 110 warps in 8 hr. from skids. The warps are for narrow looms and are not standing on end. Larger warps should be kept on wheels, it was agreed.

A great deal of lost motion can sometimes be saved by planning a definite route for the cloth hauler so that he can travel down alternate alleys and take cloth from both sides.

C. W. Howell, assistant superintendent, Erwin Mill No. 6, Durham, said that he has loom cleaners take the cloth off the looms and check it on a board as it is layed on the truck. This eliminates the cloth checker in the cloth room. The cloth is not handled any more until it reaches the cloth room where the loaded truck is weighed.

At the close of the meeting David Clark, editor, *Textile Bulletin*, Charlotte, N. C., announced that the Textile Foundation has appropriated $5,000 to pay the salary and part of the traveling expenses of a man who will direct testing in various mills in the South.

G. E. Moore, Bynum, N. C., and Ray Marley, Durham, were elected members of the executive committee.

Building Up Metal Parts

Discussed by Master Mechanics at Greenville

MASTER MECHANICS DIVISION of the Southern Textile Association met last month at Greenville, S. C., with Fred Tindall of Inman (S.C.) Mills, presiding as chairman.

J. W. Taylor, of Ware Shoals (S. C.) Mfg. Co., reported that the chain on his mercerizers is wearing out the top rail and causing the back rail to kick up. The machine operates at 50 to 75 yd. a minute on Government suiting, tent cloth, and other heavy goods. No trouble has been experienced in running light goods. Caustic is the only lubrication, and use of a hard-surfacing alloy has proved unsatisfactory in stopping the wear. It was suggested that the use of heavier parts in the machine might stop the trouble.

Consensus was that operation of a third shift greatly increases the work of the master mechanic, one mill reporting that 42% more mechanical work is necessary on the third shift than the second shift. Some of the members blamed this on the general inefficiency of the help working at late hours, but the majority insisted that speeds increase on the machines at night due to increases in voltage as the power load drops on the line. Looms were said to be particularly susceptible to this trouble in that they throw out shuttles more frequently at night than during the day. A member reported that he hung an electric clock over a Western Union clock and found that the electric clock sometimes gained as much as 20 min. at night. Such irregularity of frequency causes electric controls to get out of time and damage goods in operation. Another reason advanced for variation in machine speed at night is that additional humidity in the air causes the belts to slip less.

One or two members reported satisfactory operation from bronze bearings in motors, but most of the plant engineers preferred babbitt because it does not permit the motor to lock when a bearing burns out. Another advantage is that a bearing can be re-babbitted with relative ease, whereas a bronze bearing has to be bored out.

Bronze card-cylinder bearings, which are expensive to replace, can be repaired by filling the top with bronze and cutting a new slot on the other side. Crankshafts and camshafts can be built up with bronze, using an electric welder near the pulleys to prevent weakening. Heavy shafts can sometimes be satisfactorily built up by use of a metal spray.

Several members reported a shortage of tool steel, as well as certain types of copper wire. It was suggested that a satisfactory substitute for tool steel might be devised by hard-surfacing a piece of flat iron. Also, it was suggested that short pieces of tool steel can be welded to key steel as was done in the last war in order to conserve the metal.

Following the technical discussion, which was held in the conference room of Bahan Textile Machinery Co., the group inspected the machine shop and later were guests of the Bahan organization at a luncheon.

1—Ed Bahan (center), manager of Bahan Textile Machinery Co., explains a machine to Fred Tindall of Inman Mills, chairman, Master Mechanics, STA, (left) and J. A. Bryant, of Gossett Mills.

2—W. G. Brewer, Buck Richie and P. L. Merrell, mill engineers, talking over a problem with W. F. Hightower (right), machinist with the Bahan organization.

QUESTIONS & ANSWERS

Fuzzy Yarn

Technical Editor:

We wish to make a cloth on 72x66 count, using a good grade of 1/50 warp-twist worsted yarn. The warp, which has been sized, is entered on four shafts, straight draw. We are using an 18-dent reed, 4 ends in a dent. The weave is a 2 up, 2 down Foulard twill.

When the loom is started up, the fuzz of the yarn prevents a clean shed, and many of the ends break out. We do not know why we should have this difficulty and will appreciate any suggestions which will help us out of our trouble. (8686)

Fuzzy yarn can usually be attributed to insufficient twist, sizing which lacks the proper body or consistency, or crowded condition of warp ends. In the absence of samples of the yarn used, we are unable to advise concerning the first two of the causes, although it appears a modification in the strength and consistency of the sizing solution might prove of benefit. However, a more likely cause of the trouble is found in the construction of the cloth itself. We note this fabric contains 72 ends per inch at the loom; assuming the loom width to be 64 in. there would be a total of 4,608 ends in the warp. This, divided by the number of harnesses employed, indicates 1,152 ends per harness, a condition which clearly implies overcrowding and is probably the cause of your weaving difficulty. We suggest more irregular spacing and advise drawing straight on 8 or even 12 harnesses, which will undoubtedly reduce yarn friction during shedding.

Slub Filling Patterns

Technical Editor:

In our slub-filling fabrics we are having trouble with the slubs forming patterns in the cloth. There is a rule, based on slub intervals, width in reed, and length of a repeat in the yarn, which eliminates patterning. Can you give me the rule with an illustration of its operation. Also, is there any way in which slub spacings can be arranged to weave on two different reed widths, say 43 in. and 42½ in., without forming patterns in either? (8761)

A mill man to whom this question was referred, states:

"We have not found a way to stop this patterning entirely. It seems that on widths of 50 in. and above, we have less pattern than on narrower widths. Our way has been to experiment with various spaces of slub in the yarn until we get a combination that does not pattern. Any variation from spindle to spindle or from slub to slub may cause patterning. Thus, we could have the filling from one side of a spinning frame weave without pattern except for a few quills. Variation in reed spread, in shuttle tension, in amount of yarn on quills or on bunches will cause patterning at times. We too would like to have a rule for eliminating this trouble."

Trouble Spinning Viscose Staple

Technical Editor:

We are spinning 40s carded yarn from 1½ den. dull viscose, 25 turns., 3.90 twist multiplier, 1 in. roll. However, the yarn cuts the leather apron and breaks back between the nip and the front roll. The apron is set as close as possible to the front roll but it starts lapping up just the same. We tried putting more twist in the roving but this gave hard ends; so we took out the twist and added weight on the rolls but the trouble still was not eliminated. We know the 25 turns per in. is way off but the only way we can duplicate a certain sample is to make the yarn according to these specifications, and it gives us a great deal of trouble. Any help you can give us will be appreciated. (8759)

You will probably find it very difficult to make this yarn without a lot of trouble in view of the twist situation. However, the following changes might help some. Try taking off top clearer and substitute cork top roll for leather roll. Check travelers to see if they are too heavy. Try moving back the apron in order to give the yarn more room, instead of closing it up. Check roving for thin places. Do not add additional twist, but take out if possible. Add draft between back roll and apron.

Cop-Weaving Nomenclature

Technical Editor:

I would like to know the correct name for the type of bobbin and shuttle in which the tube is pulled out of the filling bobbin and the filling then pounded into the shuttle and a strong, flat spring fastened over it. Then the filling feeds from the inside of the bobbin. I would like to be able to express myself on this subject without having to point to the part being discussed. (8771)

The common name for the filling package in question is cop filling, or simply cops. The shuttle used in this connection is a cop shuttle. There is no bobbin used in the winding of cops. The filling is wound on bare spindles, which are withdrawn at doffing. This type of filling package is used extensively in weaving flax, jute, and hemp fabrics. It has the advantage of a much greater filling length in the shuttle than would be possible if bobbin packages were used, and it also eliminates need of bobbins. Since the filling runs out from the inside of the cops, there is no increase in tension as the filling yarn becomes more nearly exhausted. It cannot, however, be used in automatic bobbin-changing looms, but may be used in shuttle-changing looms, if run on filling-fork transfer.

The filling packages are made larger in diameter than the space for them in the shuttle. This makes it necessary to force the cops into the shuttle, with the result that the heavy corrugations inside the shuttle sink into the cops and prevent them from being knocked apart during weaving. To hold the cop in the shuttle, a flat steel spring is locked over it. Sometimes a heavy elastic is used for this purpose.

Filling Bars

Technical Editor:

We have been making yarn which, after weaving, showed bars in the filling. I am mailing under separate cover a sample of this cloth, which contains a 100% cotton warp, and filling consisting of a cotton yarn twisted with an all-worsted yarn. The filling alternates two picks S and two picks Z twist. One of the yarns is stained to avoid mixes. Also inclosed is a sample of oil used in combing, and a sample of the stain used. The worsted yarn is carded and combed in oil in our own plant, using sub. of mineral-oil emulsion. The same oil is used in the drawing. Total oil content is approximately 3%.

Our layout is as follows: Ends up

$$\frac{6x6x5x4x4x2x2}{7.65x6.5x6.7x7x6.5x6.5} = 300 \text{ grain roving.}$$

Drafts are adjusted to spindles available in set of drawing. Gill boxes, can and two-spindle, are of intersecting type. Yarn is twisted and wound on Universal No. 90 winders. Twist variation amounts to approximately 5%, or 10 turns. Yarn is conditioned using 1½% Hygrolit solution, no steaming. After coning out of the conditioning machine the yarn is well saturated with a solution of Hygrolit and water. Yarn stands 4 hr. to set before weaving. We will appreciate any information you can give us as to how to eliminate this trouble. (8762)

Investigation suggests that the trouble may be traced to the twisting or weaving department. Samples of S-twist yarn from both light and dark portions were mounted side by side on a white ground. The procedure was duplicated for Z-twist yarns. Examination of these samples revealed a slight difference in the S-twist samples. That

from the light place was a shade lighter than that from the dark place. The cotton yarn was removed from the plied samples and the single worsted yarns similarly compared. It was found that difference in shade was more marked.

It is our opinion that, in some way, bobbins of worsted yarn, perhaps the twisted yarn, are being mixed. In dyeing it is difficult to match the shade in successive lots. We recommend that you exercise the greatest care to prevent bobbins from one lot getting mixed with those from another lot. This can happen in both twisting and weaving.

It is noted that you use mineral oil emulsion. If the distribution of this oil is not uniform, and if the percentage applied varies due to method of application, trouble may be experienced in piece dyeing the fabric or dyeing the yarn on cones, if the oil has not been thoroughly removed.

What to Call Garnetted New Sweater Clips?

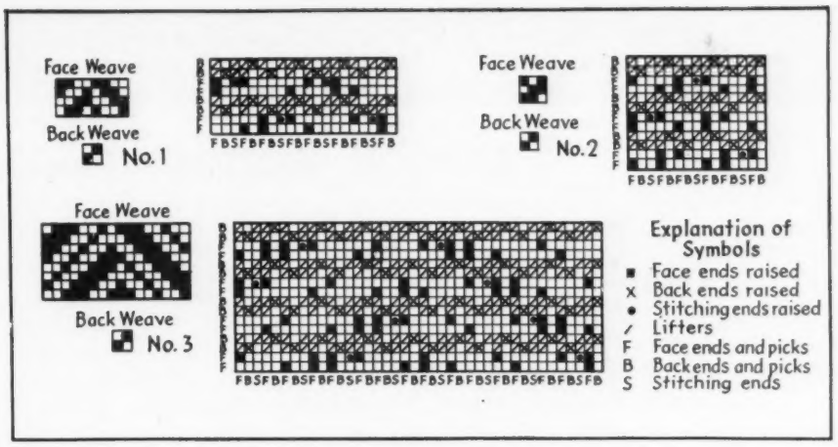
Technical Editor:

In the recently passed Wool Labeling Bill, what classification would apply to garnetted stocks made wholly from new sweater clips?

In second paragraph of an article appearing in your October issue, reference is made to woven or felted product but no mention is made of knit products. Hence the question. (8782)

The Wool Products Labeling Act is somewhat obscure on the point that you bring up. It is a fact that in Section 2, Paragraph C, the term "reprocessed wool" is defined as the resulting fiber when wool which "has been woven or felted into a wool product which, without ever having been utilized in any way by the ultimate consumer, subsequently has been made into a fibrous state." In paragraph *d* of the same section, the term "reused wool" is defined as the resulting fiber "when wool or reprocessed wool has been spun, woven, knitted or felted into a wool product which, after having been used in any way by the ultimate consumer, subsequently has been made into a fibrous state."

You will see that in paragraph *d* the two conditions of being spun and knitted are introduced into the definition, which conditions are for some reason or other omitted from the definition under paragraph *c*. It is our belief that clarification of this will ultimately have to be made by the Federal Trade Commission, which Commission is, with minor exceptions, entrusted with the enforcement of the Act under the rules, regulations and procedure provided for in the Federal Trade Commission Act. In advance of a ruling, it would be our belief that garnetted stocks made wholly from new sweater clips might reasonably be classified as "reprocessed wool," since the purpose of the definitions seems to be to distinguish between those materials which have never been used by the ultimate consumer and those materials which have had such use.



Weaves for double cloths

Weaves for Double Cloths

Technical Editor:

I am submitting three types of weaves for double-cloth fabrics weighing 30 oz. per yd., leaving open the binder ends. I would appreciate your suggestions regarding the frequency and interlacing of these binders on each weave.

Also inclosed is a sample marked A, which represents weave No. 3. It is now being made on one warp beam and we are troubled with light and heavy places on this fabric. I would like your opinion as to the construction and layout of this fabric, and any suggestions you might have in reference to same (ends, picks, weight of yarn, draw). (8669)

The light and heavy places appearing on the face of the sample are caused by the fibers of the back yarns penetrating to the face of the fabric. In order to get the desired finished weight with the yarns used, an excessive amount of fulling and length shrinkage is resorted to. This, in turn, is rendered difficult by the poor felting qualities of the stock employed. It should be remembered that the danger of back-yarn fibers penetrating to the face of a fabric is increased or decreased in direct proportion to the amount of fulling applied during finishing, irrespective of the quality or nature of stock employed.

In the sample submitted we find that the back construction is firmer than the face; to insure good results the reverse should be the case. Increasing the weight of the face fabric by approximately 2 oz. per yd. and leaving the back as it is, would improve the appearance of the cloth, considerably decrease the danger of back to face penetration during finishing, and reduce the fulling operation to a minimum. Men's wear double cloths require firmer stitching than similar fabrics made for women's wear and therefore we recommend that a 4x1 order of stitching be used in all plans.

The following particulars should prove satisfactory: 9 reed, 5 ends per dent; 70.4 in. in loom; 3168 ends, not including selvage; 36 picks per inch. Face warp and filling yarns 2 typp (1¼ run, 6⅔ cut); back warp and filling yarns 3.2 typp (2 run, 10⅔ cut); stitching yarns (neutral colors) 20/2 cotton. Warp arrangement: 1 face, 1 back, 1 stitcher, 1 face, 1 back (entire warp on one beam). Weave: No. 1 or No. 3.

In the case of weave No. 2, in which the face plan calls for a 2/1 twill, a modified construction is necessary because of the firmer construction. The maximum number of ends in a single cloth employing 2-typp yarns in this weave is 23 ends or picks per inch. For double-cloth constructions the maximum should not exceed 75% of the single-cloth total. In this instance, a total of approximately 17 ends or picks per inch is indicated. The following weaving particulars will give a firm and well-balanced fabric. By using a finer yarn on the back, the same ratio of firmness between back and face is preserved; at the same time the greater weight and bulk of yarn is retained on the face. In this way each of the three fabrics in question, irrespective of weave employed, will have the same finished appearance and characteristics. Weaving particulars: 8¼ reed, 5 ends per dent; 69.75 in. in looms; 2880 ends, not including selvages; 34 picks per inch. Face warp and filling yarns: 2 typp (1¼ run, 6⅔ cut); back face and filling yarns: 2.8 typp (1¾ run, 9½ cut); stitching yarns (neutral colors) 20/2 cotton. Warp arrangement: 1 face, 1 back, 1 stitcher, 1 face, 1 back (entire warp on one beam). Weave: No. 2.

COTTON SECTION—Chapter XIV

By IVAR MOBERG

Temples

TEMPLES SERVE to hold the fell of the cloth to nearly the reed width and delay the natural contraction of the cloth until it will have no harmful effect upon selvage ends. Only very heavy fabrics, or fabrics with high sley and low picks, can be woven successfully without the aid of temples. Generally, if the contraction of a cloth is not over 3%, it can be woven without temples, providing the selvage ends are strong enough to withstand the chafing caused by the pull of the filling. There are several types of temples used in cotton weaving: single-roll reciprocating; double-roll reciprocating; ring, non-reciprocating; and selvage, non-reciprocating.

Single-roll reciprocating temples, such as that shown in Fig. C87, are used on light fabrics with a moderate amount of contraction. The illustration shows a right-hand temple carrying the filling thread cutter. The cloth passes under this type of temple, which can be so set that it will be pushed back by the lay striking against the temple heel at the beat up. Fig. C88 shows a double-roll reciprocating temple such as is used on fabrics with heavy contraction. The temple rolls are in two parts, one long, the other short; their combined length is 4¼ in. Cloth passes over the rolls. The right hand temple carries the thread cutter.

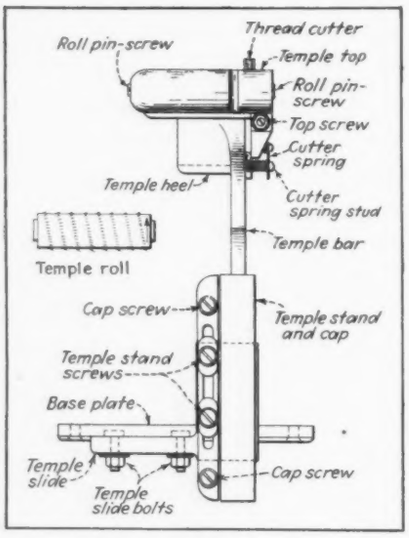


Fig. C87. Single-roll reciprocating temple

To set reciprocating temples proceed as follows: So adjust the temple base plate that the rolls are parallel with the reed. On heavy fabrics with a large contraction, the tips of the rolls should be set slightly closer to the reed than the base ends. The tension of the cloth will pull the temple slightly, with the result that the rolls will lie parallel with the reed under normal operation.

Next, move the lay to extreme forward position, loosen the temple-stand screws, and advance the temple stand until the temple bar is pushed back slightly. The temple heel should now be against the lay, with the temple top clearing the reed by about ⅛ in. If necessary, adjust the temple top to the reed by increasing or decreasing the thickness of the leather strips on the lay under the temple heel until the clearance is ⅛ in. Temples should always be as close to the reed as possible, but must not touch it, as this would quickly result in a damaged reed.

After having ascertained that the temple heel prevents the temple top from coming into contact with the reed, advance the temple stand until the temple bar is pushed back ¼ to ½ in. Most fabrics can be run with this reciprocation, although some may require less and others more. The reciprocation should not be more than required to enable the temple to hold the cloth out to the maximum width, for excessive reciprocation increases wear on the temple bars.

Now, move the lay back to approximate bottom center and adjust the height of the temple so that its underside will just clear the raceplate. Place full-length metal shims under the temple base-plate until proper height is obtained. Do not place shims under the temple slide, as these are likely to be disturbed or fall out when the temple-slide bolts are loosened to allow lateral temple adjustments.

Lateral temple adjustments, which govern proximity of the temples to the selvages, can correctly be made only after the warp is in the loom and normal weaving condition is obtained. Nearness of the temples to the selvages should be such that the outside selvage ends just clear the limit of the opening for the cloth in the temple. Full-length cloth contact with the temple rolls is desirable to give maximum temple efficiency.

Having made final adjustment of the temples, check clearance between thread cutter and reed, with lay on front center. The thread cutter must at this point be sufficiently withdrawn, by contact with the lay, that it will not strike the reed. To obtain this condition, it may be necessary to tack another piece of thin leather on to the lay. Some loomfixers bend the thread-cutter heel to obtain proper clearance between thread cutter and reed, but this is not recommended practice. While there must be clearance between thread cutter and reed, its amount must not be so great that the thread cutter binds against its stop and pushes the temple bar back. Therefore, with the lay on front center, make sure the thread cutter can be pushed back into the temple another ⅛ in.

Check the cutting ability of the thread cutter, to make certain it will properly cut the filling. Then, remove the thread cutter and apply light grease. Also lubricate the temple bars with a light oil, where they slide into the temple stand. Reciprocating temples must be lubricated from time to time to increase their durability and efficiency.

A newly developed 3-roll temple with adjustable top, now on the market, is

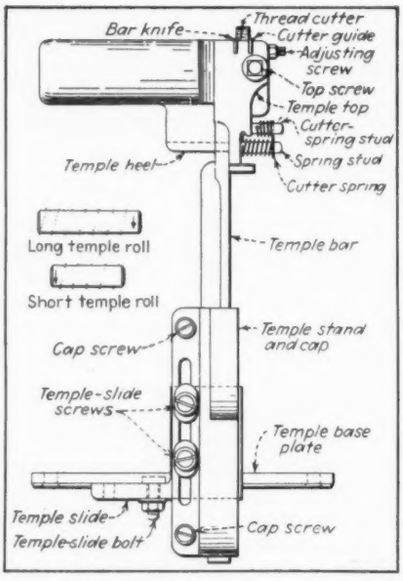


Fig. C88. Double-roll reciprocating temple

efficient on fabrics with heavy contraction and delicate texture, and helpful in preventing selvage breaks and temple marks.

NUMEROUS TYPES OF ROLLS are available for reciprocating temples. However, in cotton weaving, wooden rolls with inserted needle points are most widely used. The following discussion will deal with these rolls only. The needle points inserted can be of various lengths, to suit the type of fabric being woven. The points are usually inserted in spiral order, so that they penetrate the fabrics in a staggered fashion, thus reducing the tendency of dislocating warp and filling yarns in the fabric. Temple rolls are made with right- and left-hand spirals. Which to use has been the cause of much controversy among loomfixers. The writer's opinion is that right-hand temple rolls should be used in right-hand temples, if the cloth runs under the roll; and left-hand rolls, if the cloth runs over the roll. However, it should be noted many mills follow exactly opposite practice, with no difficulty whatsoever. (*To be continued.*)

RAYON AND SILK SECTION—Chapter V—Continued

By H. E. WENRICH

The Lay

REED BACKSTAYS must be kept properly adjusted for best loom operation. If a loomfixer takes care of these parts at all times, he will find he has less fixing to do while the looms are running. For some reason or other, there seems to be a great deal of confusion with regard to proper methods of adjusting the reed backstay. Shall it be a loose reed, or shall it be a tight reed? A great deal of this confusion can be avoided if one has a thorough understanding of the principles involved. Use of loose, or swing, reeds has become the practice in some mills, especially on light constructions. Where rope let-off is in use, loose reeds are necessary to avoid starting marks and cracks. But where automatic let-offs are in use, tight reeds are commendable.

Different types of equipment require different adjustments. So do variations in fabric constructions. When heavy jobs are run with a loose reed, the overbeating of the cloth is obvious. On fabrics of 72 picks per in. or less, a loose reed is the logical solution to a great many of the defects which appear in low-pick jobs. On the other hand, with certain types of machinery and shuttles, a tight reed is better. When weaving cloth containing from 72 picks per in. up, a tight reed is not only advisable, but practically a necessity. There are several reasons for this.

When a high number of picks is being inserted, shuttle clearance is considerably decreased by a loose reed. When the shuttle clearance comes from the picking side of the loom, the lay has less sweep, with the result that as the shuttle is about to leave the closing shed on the opposite side, the shed may pinch down on it, decreasing its speed. If the shuttle then fails to go into the box correctly, causing the loom to bang-off, frequently picking power is increased, to force the shuttle across. This practice is not commendable.

Another sometimes unsatisfactory feature of running with a loose reed is that lint or other foreign matter may work its way down between the front of the backstay and the lay. This prevents the reed from coming back into place, causes chipped and flying shuttles, and may result in shuttle marks if a shuttle hits the shed. This is of course a minor difficulty, as accumulated dirt can quickly be cleaned out and eliminated.

Probably the most troublesome feature is the unnecessary chafing of yarn. On silk yarns this is not so bothersome or noticeable, but on rayon for successful weaving, there should be the least possible movement. In such instances, a tight reed is strongly recommended.

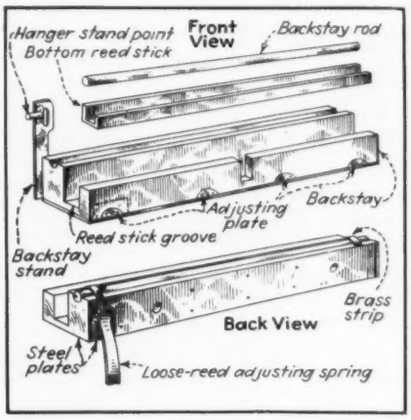


Fig. RS24. Backstay and associated parts

On both quill- and shuttle-changing looms, the writer prefers absolutely tight reeds. After a reed has shifted to correct warp line, the handrail should be tightened to prevent its moving in any direction. Good warping is essential so that, as warps run down, they will not shift from side to side.

Fig. RS24 shows general outline of a backstay. The bottom reed stick fits into the lengthwise slot in the backstay. The backstay rod is glued into the groove behind the reed-stick slot. It is also held in place by thin strips of brass screwed to each side. Each backstay adjusting plate is attached with two screws. Backstay rods may become loose while the loom is in operation, if a strip breaks or a screw comes out. Then the rod gradually works up on to the top of the backstay. In so doing, it lifts the bottom shed off the raceplate, causing a shuttle to fly out or the loom to bang off. Rods which can either be screwed or bolted securely to the backstay, and thus permanently prevented from coming loose, are therefore preferable to those which cannot be so fastened. If it is desired to raise the reed, this can be done by placing strips of leather beneath the bottom reed stick. Further raising can be accomplished by placing short lengths of harness wire in the reed-stick slot. When reeds become cut at the warp line, they can be lowered slightly by removing the harness wire, and still further by taking out the leather strips. This helps to prolong the usefulness of reeds.

The adjusting screws on backstay adjusting plates frequently wear holes in the plates, most often on the end plates. When this occurs, the plates should be replaced. If the hole has worn out the wood considerably, the wood can be cut out along the dotted lines shown on the left-hand plate, and longer plates placed in position. Be sure the plates are flush with the line of the wood. The loose-reed adjusting-spring can be adjusted by means of the adjusting bolt secured to the laysword.

Backstays are attached to the loom by means of swing-reed backstay stands. Although for convenience sake only the left-hand stay is illustrated, there is of course one on each side of the backstay. Some backstays are further strengthened by fastening steel plates on the back and bottom, as illustrated in the portion of Fig. RS24 showing a back view. When backstays become broken off at the end, and unable longer to hold to the stands, the steel reinforcing plates can be taken off, and the wood cut in two along a vertical line running down the middle of

the backstay. The two pieces can then be reversed and the center used as the ends. When the steel plates are replaced the backstay will be held solidly. While this fix will work satisfactorily and last for years, it should of course only be used when no new backstays are in the supply room.

In Fig. RS25 are illustrated end views of three types of backstays and loose-reed spring devices. The one shown at *A* is widely used. At *B* is shown a later development, and *C* diagrams the device incorporated in Crompton & Knowles S3 shuttle-changing automatic looms.

Device *A* is attached to the bottom of the lay by the stand shown. The adjusting rod is tensioned by a spring controlled by means of a nut; a second nut serves as a lock, preventing jarring loose of the spring. The reed backstay is adjusted by means of an adjusting stud, from the front of the lay. When these studs have been adjusted so much that they have been turned into the lay as far as they will go, the plates will be found to be worn through and to require replacing. In order to make possible operation with a tight reed, the small steel plate shown is bolted to the lay. The upper end presses against the backstay, preventing the functioning of the springs, which are often removed.

The spring device in part *B* operates on the principle of a shock absorber on the beating in of the pick, with a leverage movement from the stud shown. There are two separate adjustments, one of which determines the amount of tension, and the other the intensity of pressure.

In *C*, the bolt and spring are held by

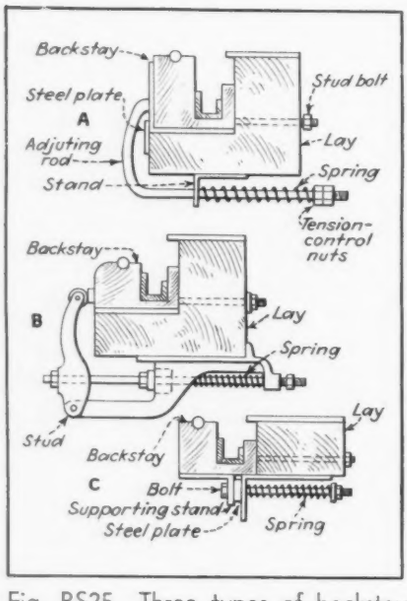


Fig. RS25. Three types of backstay arrangements

supporting stands on both lay and backstay. In order to make the reed absolutely tight, a small steel plate is placed between the two bolt supports and fastened securely. All these tension devices for loose reeds are further supported by other springs, such as that shown in the back view in Fig. RS24.

Other methods make use of reeds which are loose just previous to the beat-up, but which become tight at the beat-up. These are designed to help prevent smashes when a shuttle is trapped in the shed.

When ordering new backstay and handrail sticks, the following simple rule will be of assistance when in doubt as to the required length: On looms without a swing reed, the length of the top reed-cap equals the reed length minus $\frac{1}{16}$ in. On looms with swinging reed, the length of the top reed-cap equals the reed length minus 1½ in. The length of the bottom sticks equals the reed length minus $\frac{3}{16}$ in.

Several adjustments may be found necessary in placing a new warp in a loom. In addition to discussing these, the following text gives other suggestions found practical in overcoming various difficulties. Fig. RS26 shows a reed mounted on a lay. The reed is set into the bottom stick, the top reed cap (not shown) fitted over the reed top, and the handrail placed over the cap and bolted in position. If there is too much play between reed cap and handrail, a narrow strip of heavy paper, such as warp paper, can be placed between reed cap and handrail. This is only a temporary repair, and should be discarded as soon as a new reed cap is available.

On each side of the reed the backstay stand is fastened to the backstay, which in turn is supported by the swing-reed-hanger stand. This stand is then bolted to the top of the laysword. The handrail is fastened to the backstay stand by means of a bolt and wingnut.

When hanger-stand points become worn, too much play is allowed the reed. At the beat-up of the pick, the reed is forced backward out of line, creating an uneven weave. If a weaver has to rip back for a pick-out, the edges may be found to be out as much as 1 in., after the cloth has been reset. When the loom is started up, a loose mark results for 4 to 5 in. in from each side. The weaver packs the back of the warp, trying to pull the line of cloth backwards; in so doing matters are often made just as bad or worse, as a tight mark appears where the loose mark would have been. One mark is as bad as the other, and the proper method of eliminating future marks is to replace the worn hanger-stand points with new ones.

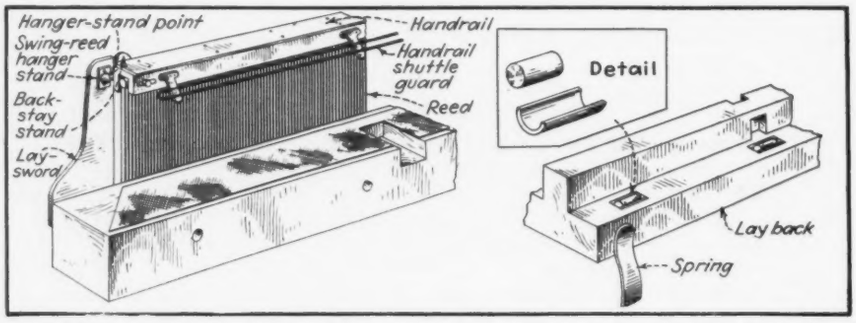


Fig. RS26. Reed mounted on lay

Fig. RS27. Method of inserting rollers

When running with a loose reed, placing of rollers in the lay for the backstay to rest upon is often desirable. These rollers can be made from pieces of picker rod about 4 in. in length. A piece of steel is recessed into the lay as shown in Fig. RS27. The rollers are then placed inside, with plenty of grease to prevent wearing and grinding while the loom is in operation. Even with a tight reed rollers such as these are often found to be helpful, as they prevent the backstay from sagging in the center. Such sagging allows the warp line to fall down on to the raceplate and cut the plate or its covering. Place from two to four rollers across the lay, according to the width of the loom. A loom with 56 in. reed space should have at least two, but not more than three rollers.

Loom reeds should be in line with the box-front guide and box. If one is out of line, even as little as $\frac{1}{16}$ in., there is danger of flying shuttles. Often, a shuttle striking a reed that is out of line makes an audible sound, and any such noise should be investigated at once and eliminated by lining up the reed correctly.

When mounting a poor warp, it is advisable to allow play up and down, as well as from side to side. This prevents unnecessary chafing and rubbing of the reed when the warp shifts from side to side.

NEWS OF THE MONTH

Fifth Annual Hosiery Industry Conference

The fifth annual hosiery industry conference was held at the Waldorf-Astoria Hotel, New York Jan. 9 and 10, as we went to press. Details will appear in the next issue of TEXTILE WORLD. Among the speakers scheduled were the following: Dr. B. H. Beckhart, economist and director of research, the Chase National Bank; Frank M. Folsom, executive vice-president, Goldblatt Bros., and Assistant Coordinator of National Defense Purchases; Victor E. Stempf, a partner in Touche, Nevin & Co. and president of the National Association of Cost Accountants; Walter W. Chamblin, Jr., Washington representative of the National Association of Manufacturers; George W. Guth, Socony Vacuum Co.; William M. Leiserson, member of the National Labor Relations Board; John F. Chapman, foreign editor, *Business Week;* Pyke Johnson, of the Advisory Commission to the Council of National Defense and executive vice-president of the Automobile Manufacturers Association; Lew Hahn, president, National Retail Dry Goods Association. A special dinner was tendered to John Wyckoff Mettler on the evening of Jan. 9. Mr. Mettler is an ex-president of the National Association of Hosiery Manufacturers and identified for many years as head of the Interwoven Stocking Co.

Certificate Plan "Ruinous"

Solution of the cotton problem depends upon a direct attack on surplus stocks through stimulating increased consumption rather than on "a wholesale attack upon the entire groundwork of our agricultural policy," Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, told the Farm Economics Association in New Orleans, Dec. 27.

Favoring continuation of the Government's present control program, he attacked current proposals for high loans, processing taxes and a marketing certificate plan as "creating new evils far worse than those they are designed to remedy."

Adoption of a marketing certificate plan, he said, would increase the cost of cotton as a raw material from 60 to 75%; and this, passed on to the consumers, would be the equivalent of a sales tax of 12% which, if imposed directly on the public, "would be politically ruinous." It would also "surrender the greater part of the American cotton market to synthetic fibers, paper, jute, tin, wood and plastics, to mention only a few of the great horde of cotton substitutes."

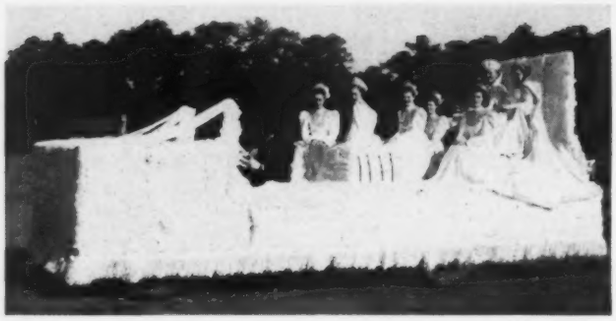
THE MEDALLION presented to industrial leaders who attended the annual Congress of American Industry held in New York early in December under the sponsorship of the National Association of American Manufacturers. At left the obverse shows the threefold structure of freedom: Representative Democracy, Civil and Religious Liberty and Free Private Enterprise. On the right the reverse, the three essentials of freedom are shown concretely in such things as ballot box, the school, the printing press, man's right to work as he pleases, etc.

AIRPLANE WINGS covered with fabric made of Fiberglas have been tested in actual flight by the Taylorcraft Aviation Corp. and found satisfactory. Above is shown a demonstration of the fireproof qualities of the material while James Dale Ludwig, chief test pilot, examined a sample of the fabric himself. The fabric is said to have a high strength-weight ratio and a substantially lower moisture pickup than previously used materials. At left is D. G. Taylor head of the Taylorcraft Aviation Corp.

Plans Maturing for Wool Labeling

During December, committees of such representative associations as the National Association of Wool Manufacturers, the National Association of Hosiery Manufacturers, the Underwear Institute, the National Retail Dry Goods Association, etc., met and thrashed out many of the difficulties and dilemmas which seem to surround the Wool Labeling Law. The underwear group will not recommend any specific form of label. The Institute, however, has applied to the Federal Trade Commission for permission to use brand names on the product in place of the name of either the manufacturer or distributor as is apparently required by the law. In the hosiery field it is understood that wherever possible the transfer method will be used, though in some lines a rider ticket may be necessary. One of each pair of hose will be labeled. The wool blanket group recommends the elimination of all qualifying adjectives before the word wool. Blanket producers who regularly use woven labels will use supplementary labels to supply the fiber content information. In all fields it is understood that an effort is being made to start labeling this month so that there will be no violations in stocks carried over into the period when the law goes into effect next summer.

The National Association of Wool Manufacturers recommended the following phrasing of the guarantee which a distributor may request, as provided by law, from the



TALLASSEE MILLS was represented by the above float in the elaborate parade which was part of the dedication ceremonies for a new $500,000 bridge over the Tallapoosa River at Tallassee, Ala., on Dec. 10. Miss Elizabeth Dubanks and Dorman Moncrief are the queen and king of cotton on the above float. The maids of the Queen's court are the Misses Fannie Crockett, Minnie Pemberton, Ada Piper, Gwendolyn Fomby and Margaret Taunton. The driver of the float is Bud Rushin, a colored employee of the mills for more than half a century. The first Tallassee mill building was erected in 1844, being the second textile enterprise of the State. The first was the Bell Cotton Mill erected in 1832 in Madison County which concern is not now in operation.

manufacturer: "We warrant the fiber content of the wool product covered by this order (or invoice as the case may be) to be correctly stated within the unavoidable variations of our manufacturing procedure and warrant the exercise of due care to make the statement as required by the wool product labeling act as accurate as possible."

Seven Rayon Firms Earn 9.3% Average

Rayon manufacturing companies had a rate of return of 9.3% in 1939, according to a report by the Federal Trade Commission. This is part of the commission's project for the collection of annual financial reports from companies operating in many of the principal industries.

The seven corporations were among the most important concerns in the rayon yarn industry. They had consolidated sales of $144,748,524 in 1939, or approximately 58.6% of the total value of products reported by the Bureau of the Census for that year. Costs and expenses amounted to $123,064,062. The combined net income, before deduction of interest on long-term borrowings and income taxes, on the average total capital of $245,787,742 employed by the seven corporations in 1939 was $22,913,734, or a rate of return of 9.3%. This average rate of return represented individual rates for the seven companies ranging from a profit of 3.9% to one of 26.5%. Five of the seven companies had rates of return higher than the average, these five rates ranging from a profit of 12.5% to one of 26.5%. One of the remaining corporations had a rate of 7.1%, and the other 3.9%.

Rayon Fiber With Permanent Crimp

A new rayon fiber with a high degree of permanent crimp has been developed by the Rayon Department of E. I. du Pont de Nemours & Co., Inc. Fabrics made from this new fiber, which is still known by its laboratory designation, "Fiber D," are said to possess certain characteristics now available only in wool. Fiber D has been employed in rugs, carpets, upholstery materials, and wall coverings, and can also be used in other decorative fabrics, including draperies, automobile upholstery, and plushes. Since the crimp is an inherent characteristic of the fiber, if it is partially removed during processing, it can be recovered by simple treatments. The fiber has a smooth cross-section, as contrasted to the crenulated or ridged pattern of standard rayons; it is stated that for this reason fabrics made of it shed dirt more effectively. Among other advantages of the new fiber cited by Du Pont company are that it dyes readily, is mothproof, takes readily to treatment with anti-mildewing and fire-retardant preparations, has good resistance to abrasion, and can be treated with Zelan to provide a hand that is indistinguishable from carpet wool.

Cotton Week May 16 to 24

Observance of the 11th annual National Cotton Week was set for May 16 to 24, 1941, at the mid-winter meeting of the Cotton Consumption Council held in New Orleans, Dec. 12. The council also adopted a 14-point national cotton promotional campaign involving complete integration of the efforts of the Cotton-Textile Institute and other organizations seeking to increase domestic consumption of cotton.

Wage-Hour News

Constitutionality of the Wage-Hour law was argued before the Supreme Court in the Opp Cotton Mills case in mid-December. A decision is expected in a matter of weeks. The nine justices, hard to hear in their monstrous Greek cavern on Capitol Hill, gave counsel for both sides a going-over with sharp questions.

The Opp company asked for an injunction against the Wage-Hour Administrator's minimum wage order for textiles, which took effect Oct. 24, 1939. The petition was denied by the Circuit Court of Appeals for the Fifth District, April 2, 1940. On October 14, 1940, the Supreme Court agreed to hear the case.

The Opp company, and other mills that intervened, posted bond, and joined in the petition, claim that the Administrator failed to consider existing regional wage differentials in accordance with the law; that the evidence failed to show that employment would not be curtailed by the order; that the Act, as interpreted by the Administrator, is unconstitutional.

"THE PARADE OF SCIENCE" was a style show presented before the recent convention of the National Association of Manufacturers in which the manikins were dressed completely in synthetic materials. At left is shown gown made of Nylon velvet, and it is said that this was the first time when such a fabric was seen by the public. Not only is the gown of synthetic material but also the muff, the turban, gloves, bag, hosiery, lingerie, etc.

TEXTILE MILL SIDELIGHTS—No. 21

"Yeth, thath what I thaid—I think thith pattern ith juth lovely."

Tax Decision on Sale of Machinery

An important decision recently rendered by the U. S. Board of Tax Appeals is of interest to cotton textile plants. In the case of Industrial Cotton Mills Co., Inc., Rock Hill, S. C., and Cluett, Peabody & Co., Troy, N. Y. vs. the U. S. Government, the Board of Tax Appeals held that, where a business concern sustains a loss in operation and sells discarded machinery, the loss sustained did not result from a sale of capital assets but instead resulted from a loss of a useful value of capital assets, and that such a loss was deductable in full. As a result the Rock Hill concern was given credit for $18,378.09, the full amount sustained, instead of $2,000 as granted by the Collector of Internal Revenue.

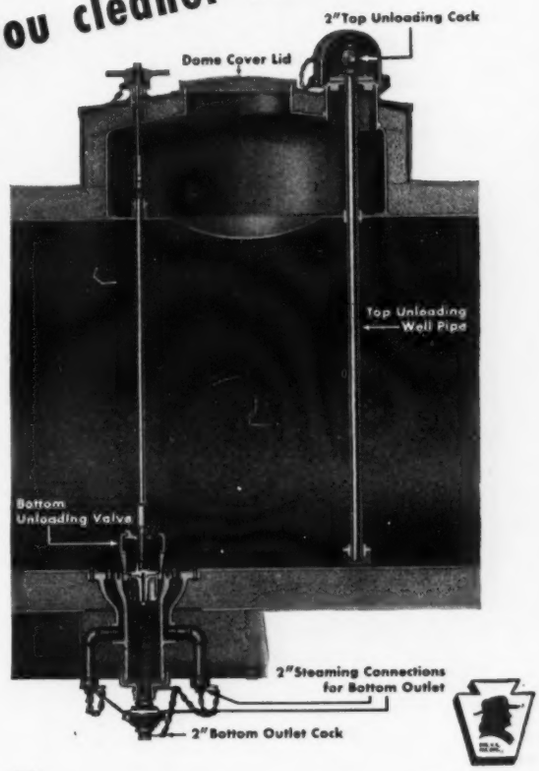
Opens New Display Rooms

A. M. Tenney Associates have opened a new suite of display rooms on the 40th floor of 10 East 40th Street, New York, where fabrics of Tennessee Eastman acetate yarns and Teca staple fiber may be seen by the trade. The drapery in the showrooms is made of Teca and the floor covering consists of broadloom carpet of 100% Teca. One of the rooms contains a small stage and projection screen. Fashion movies and fashion shows may be presented here. There is another room especially for mill men where designers and technicians may consult with the Tenney textile staff headed by Carl C. Mattmann, Jr.

South Americans At Chapel Hill

A "summer school" for Latin-American professors, students and professional workers is being held from Jan. 18 to March 1 at the University of North Carolina, Chapel Hill, N. C. It is expected that approximately 100 South Americans will be present for the 40-day period. Last year about 100 North Americans attended a similar school in Lima, Peru, but this is thought to be the first school of its kind in the United States. Steamship lines are offering the

NEW TANK CARS
cut handling costs and bring you cleaner caustic soda



THE new caustic soda tank car fleet just put in service by Pennsylvania Salt Manufacturing Company will bring you a purer product and also reduce your handling costs.

CLEANER CAUSTIC SODA—because of the protective lining, the special draining plates, and the use of caustic resistant valves and interior fittings. Steam heating coils do not contact caustic soda, thus eliminating contamination from this source.

QUICKER HANDLING—because ample insulation assures delivery of *fluid* caustic in any weather. The improved design and more accessible unloading connections also help to speed unloading.

EASIER, SAFER UNLOADING—because the number of unloading fittings have been minimized and these are easily operated. Also, for your workmen's safety, each car is equipped with a dome safety platform and guard railing.

Write today for full information on the safe handling of liquid caustic soda delivered in these new cars. Pennsylvania Salt Manufacturing Company, Widener Bldg., Philadelphia, Pa.—New York • Chicago • St. Louis • Pittsburgh • Tacoma • Wyandotte.

PENNSYLVANIA SALT MANUFACTURING COMPANY

Chemicals

The makers of

EXSIZE

wish you and yours

A Happy and Prosperous New Year

We thank you for your patronage during the past year . . . and hope that we may continue to serve you throughout a successful and prosperous 1941.

PABST BREWERIES

PABST SALES COMPANY
CHICAGO, ILL.
Warehouses at New York, and Textile Warehouse Co. Greenville, S. C.

visitors special rates in order to compensate for the weak exchange in some of the countries. The University of North Carolina has printed a special bulletin in Spanish describing the school curriculum.

May Run 30 Automatics per Weaver in Paterson

Charles H. Roemer, president of the Paterson (N. J.) Industrial Commission, announced the conclusion on Dec. 23 of an agreement with the Textile Workers Union of America, whereby local firms will be permitted to operate up to 30 silk or rayon automatic looms to the weaver. "Previously," Mr. Roemer explained, "the arrangement allowed a maximum of 20 looms per weaver."

A.A.T.C.C. Notes

Perrin M. Collier, vice-president and director of research, Callaway Mills, La Grange, Ga. was re-elected chairman of the Southeastern Section at a meeting held Dec. 7. Leslie L. Bamberger, of Lanett Bleachery & Dye Works, was re-elected vice-chairman.

Fred A. Priestly, chief chemist, Hayward Schuster Woolen Mills, presented a paper entitled "A System of Control Over Costs in a Woolen Dyehouse," at a meeting of the Rhode Island Section, held Dec. 20. Fred W. Binns, of Virginia Smelting Co., spoke on the "Application of Sulphuric Dioxide as an Anti-Chlor."

"Trends in Printing and Use of Resins in Finishing" was the subject of a paper presented by R. W. Jacoby, of Ciba Co., Inc., at a meeting of the New York Section, on Dec. 13.

Rust Bros. Offer Cotton Cleaner to Improve Grade of Mechanically Picked Cotton

The Rust Brothers have tried to solve the missing link between their cotton picker and its general adoption as a field piece by inventing a cotton cleaner to be used in conjunction with the mechanical picker. The new cleaner is housed in a long steel container and cleans the cotton by a blowing process. The demonstration cleaner is mounted on a tractor for power, but the units can be set up at cotton gins for cleaning cotton whether picked by hand or by the mechanical picker.

NEW "CROWN TESTED" TAG designed by Donald Deskey. This is said to be the first tag constructed of transparent plastic material. American Viscose Corp. will supply these tags exclusively for dresses wholesaling from $6.75 up. It may later be extended to lower price garments

TEXTILE CALENDAR

Boston Wool Trade Association, annual dinner, Hotel Statler, Boston, Feb. 6, 1941.

Committee D-13, ASTM, Mayflower Hotel, Washington, D. C., March 5 to 7, 1941.

Southern Textile Exposition, Textile Hall, Greenville, S. C., March 31-April 5, 1941.

Knitting Arts Exhibition, 37th annual show, Commercial Museum, Philadelphia, April 21 to 24, 1941.

National Cotton Week, May 16 to 24, 1941.

May Establish Degree Course At Philadelphia Textile School

Establishment of a four-year course at Philadelphia Textile School, leading to the degree of Bachelor of Science in Textiles, is being given intensive study, according to M. Earl Heard, dean. Faculty committees are said to be at work on the necessary courses in English, mathematics, history, economics, marketing, costing, and others, and the school has adopted a new grading system.

Atlanta Club Elects

At the monthly meeting of the Atlanta (Ga.) Textile Club, Dec. 2, the following officers were elected: president, H. C. Allen, Jr., Sterling Textile Co.; vice-president, J. Harry McGinty, Jr., J. P. Stevens & Co., Inc.; secretary and treasurer, W. H. Morrison, Wellington Sears Co.

The club toasted its retiring officers and started off the new year in high spirits at its second annual dinner-dance, Jan. 3, in the Peachtree Room of Henry Grady Hotel, Atlanta. Fifty members, including wives and sweethearts attended. John G. Boyle, Eagle & Phenix Mills, was chairman of the arrangements committee.

Thirtieth Anniversary of First U. S. Rayon

Last month marked the thirtieth anniversary of the American rayon industry's first full month of production. On December 19, 1910, the first rayon fibers were spun in a plant in Marcus Hook, Pa., the forerunner of the American Viscose Corp.

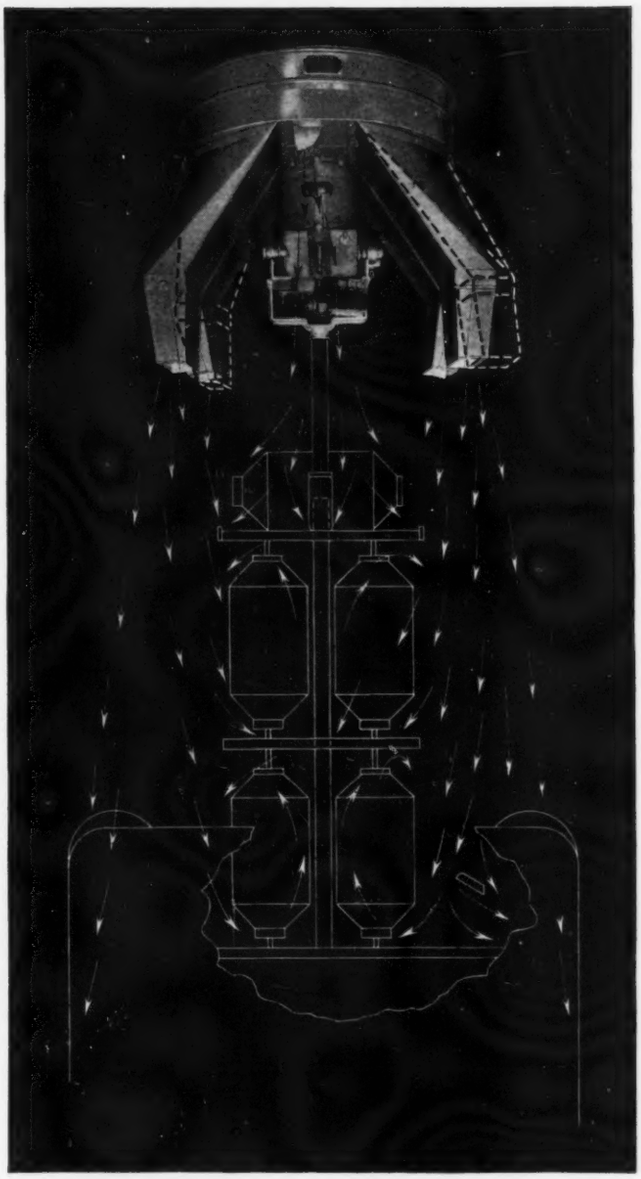
New Botany Line Shown

"Botany Perennials," designed by Pola Stout and made by Botany Worsted Mills, were shown to the trade for the first time last month. These fabrics are designed with the group idea of a complete wardrobe in mind so that harmonizing materials of different construction may be selected by women consumers. Behind the offering also is the idea that the mass production genius of America can furnish the charm and variety in fabrics of the small craft units of the old world. There are five basic colors used in the line: red, blue, brown, gray and green; and about 300 styles.

Textile Market Buoyant As Year Ends

Cotton goods were strong during December as the advancing movement spread through nearly all quarters of the market. There were two advances of ½¢ each on vat-dyed khaki drills and jeans. Some percales from stock were sold somewhat under market for future delivery. Print cloths are firm and broadcloths have been attracting interest.

Wool goods markets are pointed upward, but efforts are being made in many influential sources to restrain any violent price advance. Obviously the large Government orders and the restrictions on wool imports set up a situation where price advances are the logical thing. Mills are



Where do you want the Air?

On all new Parks Automatic Traveling Cleaners air outlets are adjustable.

The volume of air is adjustable. Where it is delivered is also adjustable. Both air streams may be "spotted"—inward—directly downward—or outward. One side may be spotted independently of the other and in a different direction.

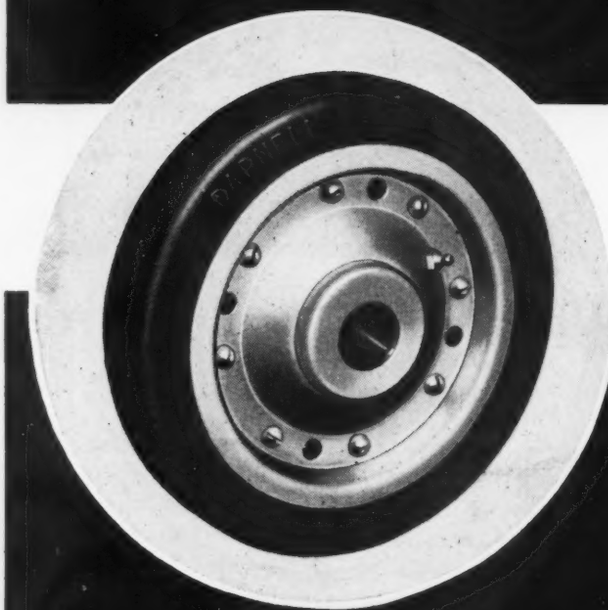
This improvement makes Parks Traveling Cleaners more flexible—and still more efficient.

Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

DARNELL CASTERS
& E-Z ROLL WHEELS

Nearly 4000 types of casters and wheels for every industrial use. Write for new FREE MANUAL.



For Savings Specify
DARNELL

DARNELL CORP., LTD. • LONG BEACH, CALIF.
36 N. CLINTON, CHICAGO — 24 E. 22ND, NEW YORK
DARNELL CORP. OF CANADA, LTD., TORONTO, ONTARIO, CANADA

running at record rates and most are sold up for the first quarter of 1941. The question of wages is bothering some.

Rayon remains steady and well sold. Style developments in the fabric field are encouraging to rayon's future and rayon staple gives promise of being scarce for some months to come.

Silk ran along on even keel through December supported by the Japanese Government stabilizing plan. That Government owned 86,200 bales as of Dec. 15 compared with 71,800 bales as of Nov. 30. There seems little to attract a very bullish position on silk so long as trade is possible across the Pacific Ocean.

Hosiery benefited from an enormous Christmas trade and most of the large makers are going into the new year with unchanged prices. Nylon hosiery is scarce at retail, but there is promise of an expanding supply as 1941 goes along. Half hose aided by defense program.

Underwear mills are well sold ahead through early 1941. Government business has been sufficient to render them independent of minor fluctuations in civilian needs. Inventories are reported below normal.

Outerwear manufacturers are optimistic that style will continue to broaden the fields into which knitted garments may go. Already we have knitted evening dresses and delicately knitted sweaters to go with evening wear.

The 1941 carpet season opened on Jan. 6 and reports of abnormally large orders were heard on all sides.

This and That

An informative tag will hereafter appear on the all-wool blankets made by the American Woolen Co. which will feature information on care, laundering, etc. The tag has been developed by Care and Maintenance Information Service, New York, and is sponsored by Calgon, Inc., manufacturers of a water normalizer.

Callaway Towel Salon was opened on Dec. 15 at Miami Beach, Fla., by Callaway Mills, LaGrange, Ga., for the purpose of testing retail methods as applied to the new line of bath towels and mats which the Callaway organization is putting on the market.

Emile Bernat Sons Co., Jamaica Plain, Mass., is now offering an all-spun-rayon chenille hand-knitting yarn. It is made of Crown-Tested spun rayon and is said to be the first example of this quality control plan in this particular market. The chenille weaving of the product is done by Robert Zeeland's Sons, Inc., of Philadelphia.

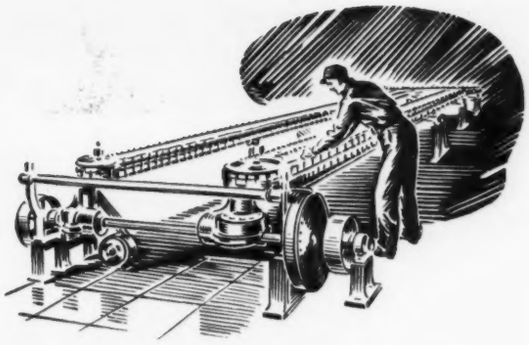
Chicopee (Mass.) Mfg. Co. has dropped the plan of four shifts of 36 hours each per week, and returned to the more usual three shifts of 40 hours each.

Strength of silk hosiery yarn is not greatly affected by changes in relative humidity of the surrounding air between 33 and 55%, but the strength is less at higher humidities, according to a report by E. Max Schenke and Howard E. Shearer, of the National Association of Hosiery Manufacturers, in the December issue of the *Journal of Research*.

Formation of an organization of circular knitters to fight "nuisance" patents was discussed at a meeting called last month by I. Rogosin, of Beaunit Mills.

A new type of non-tarnishable metallic thread composed of a thin aluminum foil laminated between two films of cellulose acetate butyrate (Kodapak II) and cut into strips as fine as 1/64 in. wide has been announced by the Kodopak Sales Division of Eastman Kodak Co.

"Book of 1941 Blinds" is the title of an excellent piece of promotional literature produced by Thomas French & Sons, Ltd., New York, makers of tape for venetian blinds, with plants at Fall River, Mass., and Manchester, England. The book is composed largely of photographs showing effective uses of venetian blinds.



New Tenter gets orders that mill used to lose

"Costs were too high . . .

"Production was too low . . .

"We found that out on a couple of big orders—one we took and lost money on, and the other we lost because our price was too high.

"A few months ago, we purchased the latest-type Butterworth Automatic Anti-Friction Tentering Machine. We put the new Tenter in range by placing a starch mangle at the entering end and a winder at the delivery end.

"In a short time, the new Tenter was speeding up the finishing operation . . . increasing yardage . . . lowering the cost of production."

Outdated equipment in the wet end of textile finishing loses orders and profits for many an otherwise progressive mill.

Under present conditions, a new machine pays for itself two or three times as fast as it does under ordinary conditions. Growing realization of this fact is causing more and more mills to purchase new machines—for bleaching, boiling-out, drying, calendering and dyeing.

For more than 120 years, our entire time and effort have been devoted to promoting efficiency in every process of the wet end of textile finishing. We know all the small advantages in production costs which, collectively, make the difference between profit and loss.

Butterworth Engineers are constantly working with leading textile finishing plants—helping to achieve greater yardage, better finishes, higher speeds and lower production costs.

Let us work with you in determining whether modern Butterworth Machines or improved plant layout will help you to improve your competitive position. Write us fully about your problems.

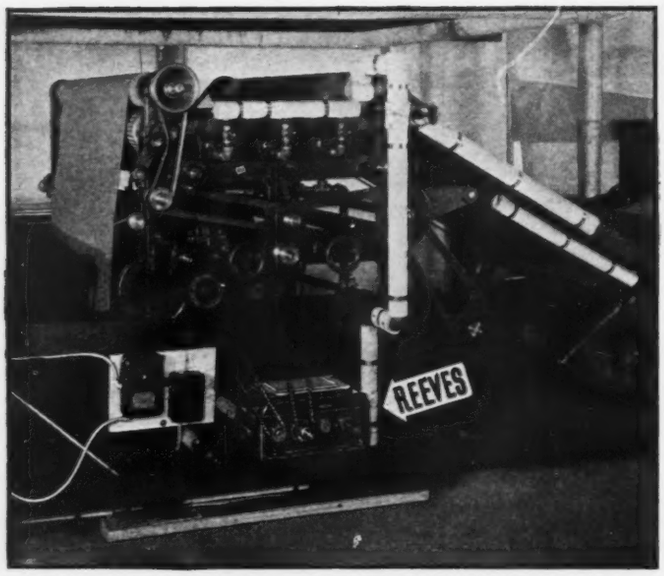
H. W. BUTTERWORTH & SONS CO. Phila., Pa., Serving the Textile Industry Since 1820. Offices: Providence, R. I. and Charlotte, N. C. In Canada—W. J. Westaway Co., Hamilton, Ont.

***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth



Accurate

SPEED CONTROL

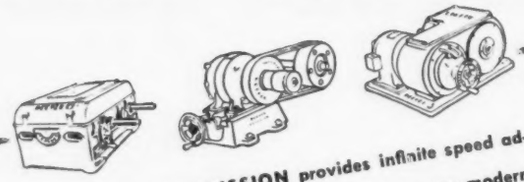
Enables Any Machine To "Do Its Best"—All the Time . . .

In many textile processes *quantity and quality* of production are closely linked by the speed at which the machine is operating. If the machine runs too slow or too fast for the weight or kind of goods going through, either quality or quantity must suffer. If the speed is "just right," both are improved. Recognizing this fact, Mawaco Machine Co., Brooklyn, N. Y., the makers of the "Fullshrink" machine, shown above, have equipped it with a REEVES Variable Speed Transmission, to provide complete speed adjustability . . . For better production at a faster rate, always choose a machine equipped with a REEVES Speed Control unit. And find out how easily and inexpensively these units can be installed on machines in service. Write today for copy of 124-page Catalog G-397. No obligation.

REEVES PULLEY COMPANY, *Dept. W,* **COLUMBUS, INDIANA**

ACCURATE POSITIVE *Reeves*

SPEED CONTROL



Left to right: **TRANSMISSION** provides infinite speed adjustability over wide range, 2:1 to 16:1 inclusive; modern, compact, open and enclosed designs . . . **VARI-SPEED** Motor Pulley, simple, direct drive for requirements from fractional to 15 H.P.; 3:1 range . . . **MOTODRIVE** combines motor, speed varying mechanism and reduction gears.

NEWS ABOUT MEN

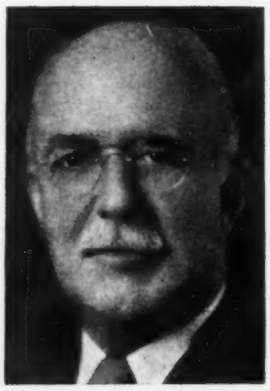
George W. Childs, vice-president since 1932 of Chalmers Knitting Co., Amsterdam, N. Y., has been elected president of the company to succeed the late James E. Campbell. Mr. Childs has been with the concern since 1913. **George C. Williams** was named vice-president and **Edwin H. Patton,** treasurer. **David W. Chalmers** is chairman of the board.

Leslie A. Hopkins, sales manager of the Roper Knitting Co., Canandaigua, N. Y., has been elected vice-president, succeeding **George Baxter,** resigned.

George H. Eypper has resigned as vice-president of Deering, Milliken & Co., New York, and is retiring from active service, although continuing as a director of the company. He has completed 51 years service with the Deering-Milliken organization, during much of which time he has been associated with the gray goods division. It is said of Mr. Eypper that he has sold over 3,000,000 miles of cotton goods during his business career.

Peter P. Hagan, president of Charles P. Cochrane Co., was re-elected chairman of the board of the Institute of Carpet Manufacturers of America, New York, for 1941 at the annual meeting Dec. 18. **Leroy A. Beers,** recently made president of the Institute, was re-elected to that post for 1941. **King Hoagland** was elected secretary and treasurer.

Allan Barrows, Gosnold Mills, **Alfred C. Gaunt,** Merimack Mills and **Melville Weston,** Newmarket Mfg. Co., are members of a group named by Governor Saltonstall to assist the Massachusetts Selective Service headquarters in collection of information pertaining to occupational deferments.



FRANKLIN W. HOBBS, president of Arlington Mills, Lawrence, Mass., who celebrates this month the 50th anniversary of his association with those mills. His personal milestone almost coincides with the 75th anniversary of the founding of the company, which was celebrated last year.

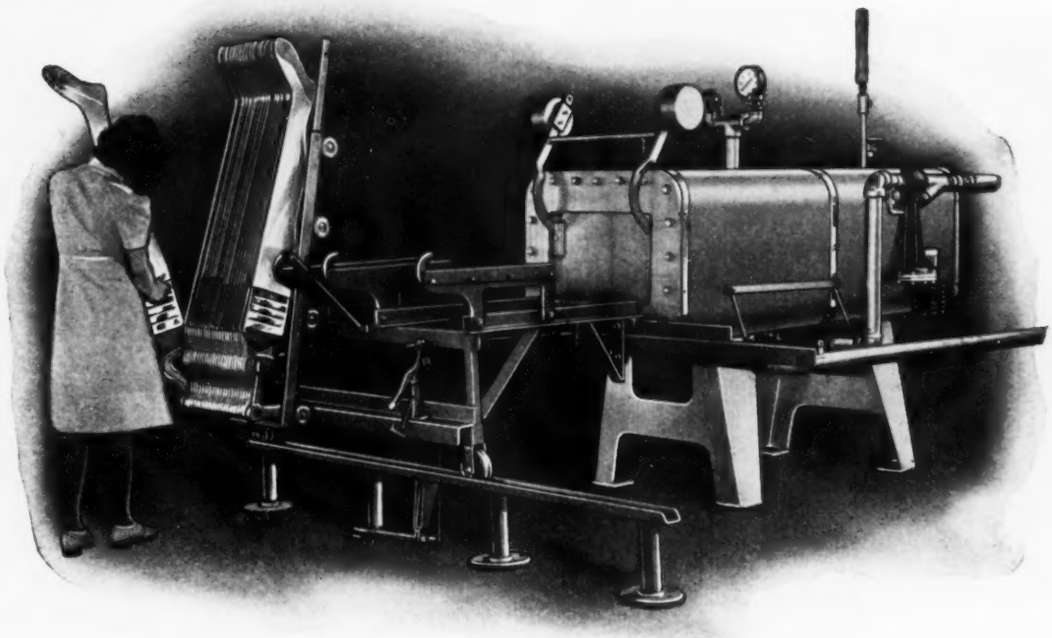
Robert L. Cole is the newly elected president of Hannah Pickett Mills, Rockingham, N. C., succeeding his father, **Wm. B. Cole,** who has been made chairman of the board.

Ernest G. Glaesel, who has been the active director of the affairs of Schwarzenbach, Huber Co., New York, during the last few years, has been elected president of the company to succeed the late Dr. Alfred Schwarzenbach, of Zurich, Switzerland. **Alfred Schwarzenbach, Jr.,** formerly second

CHARLES A. CANNON, president of the Cannon Mills Co., presented medals to four employees who have been with the concern for 45 years or more, at a banquet in Kannapolis for 700 employees with the company for 25 years or more. Left to right, Mr. Cannon; B. L. Wallace (45 years); A. H. Sides (47 years); J. W. Goodnight (47 years); C. E. Maulden (45 years), and Gov. Clyde R. Hoey of North Carolina.

PARAMOLD II

NYLON PREBOARDING MACHINE



An Individually Operated Unit Offering the Utmost In
SIMPLICITY AND PRODUCTIVITY

● Now available with its many exclusive features is this outstanding development in nylon equipment.

● Two batteries of 24 forms insure continuity of operation by one attendant. One battery of forms is always in the steam chamber being treated, while the other is outside and in use. Each set of forms, being perfectly balanced, when removed from the steam chamber tilts from its horizontal position into an upright working position. Thus all forms are simultaneously brought to the most desirable and productive angle. The operator then moves the other unit of forms in front of the door for insertion into the machine. The door is opened inwardly for removal of one set of forms and substitution of the other. Counter-balancing of the door permits this operation with practically no effort.

● All work is done in front of the machine, obviating the necessity of walking around it.

● Forms are of highly polished non-snagging stainless steel, made rigid by an inner rib to eliminate clashing or bending, a major cause of cuts and pulled threads. Each form is equipped with a Rapid Change Base for instantaneous size changes.

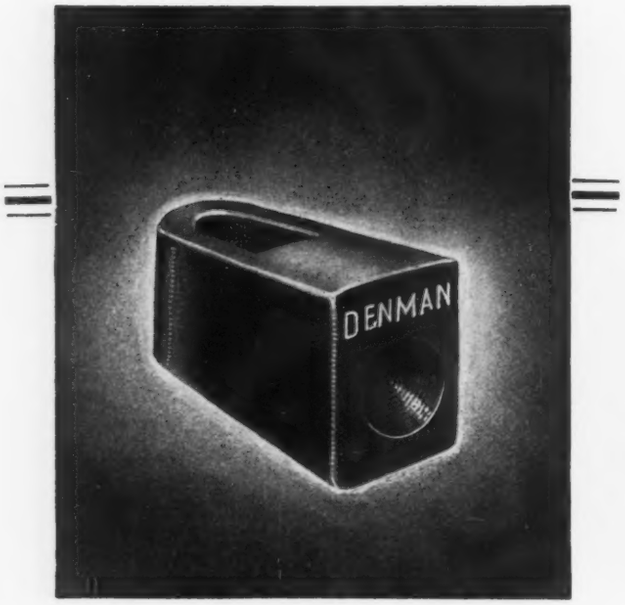
● One of the most novel features of this unit is the door which is sealed from within by the steam pressure used in treating the stockings. Absolutely leakproof, this construction eliminates all mechanical sealing devices and results in a truly 24 hour a day machine. It can be depended upon to be in service at all times. Pressure is attained in ten seconds. The design of the cabinet permits perfect insulation and the small door holds heat dissipation to a minimum.

PARAMOUNT TEXTILE MACHINERY CO.

538 SOUTH WELLS STREET **CHICAGO, ILLINOIS**

WHERE CONTINUOUS OPERATION DEMANDS LOOM PARTS OF THE

Highest Quality



DENMAN

Automatic, high-speed looms running 24 hours a day, 5 days each week, require loom parts that can take a terrific amount of punishment.

Denman Loom Parts have proven their ability to give long, satisfactory service under high temperature conditions, caused by long, unbroken periods of operation.

Many of the country's leading mills, now operating at full capacity, have standardized on DENMAN products because of their greater dependability, long life and low cost.

For LOWEST COST PER LOOM PER YEAR *Specify* DENMAN

PICKERS • LUG STRAPS • HOLD UPS • ETC.

The Terrell Machine Co., *Inc.*

CHARLOTTE, N. C.

Luther Pilling, Danielson, Con. . . . . N. E. & Canada
E. W. S. Jasper, Elizabeth, N. J. . . . . Penn. & N. J.
Geo. Thomas & Co., Ltd., Manchester, Eng. . . . European Agt.

A.A.T.C.C. ELECTS NATIONAL OFFICERS

CARL Z. DRAVES of General Dyestuff Corp. (top photo) was recently reelected president of the American Association of Textile Chemists & Colorists. Newly elected vice-presidents are THOMAS R. SMITH, of Wiscassett Mills Co., Yarn Dyeing Dept. (lower left); and ROLAND E. DERBY, of the Derby Co. (lower right)

vice-president, has been elected chairman of the board and first vice-president.

Emile F. du Pont has been appointed director of production of the Nylon Division of E. I. du-Pont de Nemours & Co., Wilmington, Del.

Wright Bolton, Jr., recently with Pacific Mills, has been appointed manufacturing and sales agent of Soule Mill, New Bedford, Mass., succeeding **F. H. McDevitt,** agent and treasurer for 25 years, who resigned Jan. 1. **Fred L. Dowle** is now treasurer.

Savage C. Frieze, long identified with the merchandising and selling of rayon and fine cotton goods, has resigned from Deering, Milliken & Co., New York after 12 years' connection. He came to that company with the Judson Mills, whose products he handled when it was sold by the former Hunter Mfg & Commission Co.

Crosby Smith, recently with Turner Halsey Co. and previously for 15 years with James E. Mitchell & Sons, Philadelphia, has joined the National Spinning Co. and will be in charge of that concern's Philadelphia office.

F. G. Hamilton, formerly manager of the Spool Cotton Co.'s domestic merchandising division, was recently named assistant to **H. Grandage,** vice-president in charge of sales, New York.

M. A. MacKinnon, of Swift Mfg. Co., Columbus, Ga., is in charge of the new direct sales office opened by that concern, 40 Worth St., New York.

Harry J. Delaney, vice-president and secretary of Meinhard, Greeff & Co., Inc., will be elevated from first vice-president to the presidency of the New York Credit Men's Association during the latter part of January. He will succeed **Clarence L. Riegal,**

SIDNEY S. KORZENIK, for many years secretary of the National Knitted Outerwear Association, who was elected executive secretary of that body last month.

Will a cute little kitten be the symbol for Industry's next great expansion area ?

The Chessie Corridor **is so abundantly rich in the vital needs of industry that many a company is talking "Move".**

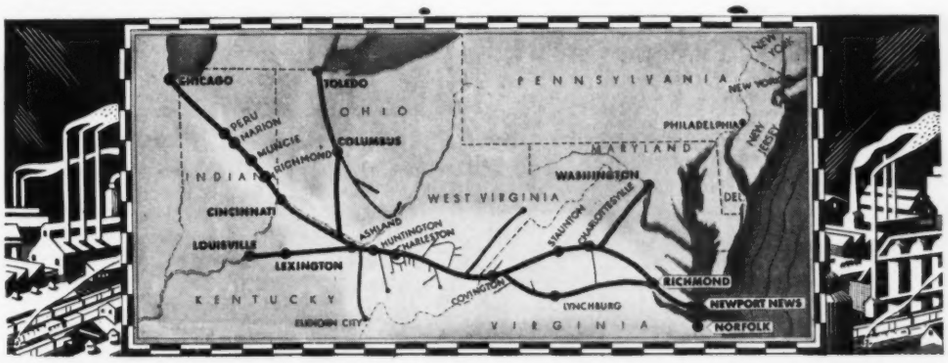
When George Washington first surveyed this great "Route of Empire East and West" he couldn't have dreamed of the wealth that surrounded him. For here, in one compact area near our nation's major markets, is practically everything that industry needs!

Washington couldn't have dreamed, either, of the things that have been done here...of the great plants which make miracles out of coal, air and water, the buzzing textile mills producing enough cloth to clothe all his countrymen from head to foot, the paper mills which make more paper in an hour than Washington saw in his lifetime. No . . . he couldn't believe what his own eyes would show him if he strode along his "route" today!

Things are happening in the beautiful, naturally protected *Chessie Corridor.* Big events . . . things that are shaping the industrial future of America. What they are—and *why* they are—should be common knowledge to every major executive.

FACTS . . for the man who makes decisions

Information on this important area is now organized and available in a new 56-page book, you'll be proud to have in your library —*"The Chessie Corridor . . . Industry's Next Great Expansion Area."* This beautiful book is a graphic survey of the resources, conditions and opportunities which beckon Industry to *The Corridor.* Copies will be mailed to business executives requesting them from INDUSTRIAL DEVELOPMENT SERVICE, Chesapeake and Ohio Lines, Huntington, W. Va. Your request will be kept strictly confidential.



THE CHESSIE CORRIDOR ★ ***Served by CHESAPEAKE and OHIO LINES***

HIT OR MISS METHODS

• • • of ordering your alkalies do not result in savings

More often than not, such methods add a *hidden cost* that is hard to trace in the manufacture of your textile products.

WHY should this be so? Suppose, for instance, that you do *not* obtain *all* the following advantages when you buy alkalies. A lack of any one of these *might* cost you money.

The right type of product for your job. Solvay Alkalies are made in various forms to meet specific manufacturing requirements. The Solvay Products Book gives you complete data on types and strengths of Solvay Products.

A product that is always uniform—every time you receive it. The most modern and scientific manufacturing practice insures a constantly uniform quality standard in *Solvay* Products *all the time!*

Solvay's facilities for distribution are unsurpassed. Three of America's largest alkali plants, located in important industrial centers and over 100 stock points assure prompt delivery, efficient routing of your orders for Solvay Alkalies.

Your problem can be solved. Your problems concerning the use of alkalies are Solvay's. Solvay Technical and Engineering Service Division is maintained *to help you get* the most from your alkalies.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 Rector Street New York, N. Y.

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati
Cleveland • Detroit • New Orleans • New York
Philadelphia • Pittsburgh • St. Louis • Syracuse

SOLVAY SALES CORPORATION
40 Rector Street, New York, N. Y.

Please send me a copy of the Solvay Products Book which will give me complete information on all Solvay Products.

*Name*_____

*Firm*_____ *Address*_____

*City*_____ *State*_____ BM-1-41

GEORGE R. WEST, JR., and Mrs. West photographed with the bronze plaque presented last month to Mr. West by the employees of the Dixie Mercerizing Co., Chattanooga, Tenn., emblematic of their esteem and appreciation. The plaque carries engraved facsimile signatures of employees with from 2 to 20 years of continuous service. Mr. West, himself, has been with the company for 20 years.

who has been named secretary of the association, replacing **William Walker Orr,** who recently retired.

Saul F. Dribben, president of Cone Export & Commission Co., New York, has been named vice-president of Proximity Mfg. Co., Greensboro, N. C.

William Horr, now 81 years old, is retiring as a partner of Minot, Hooper & Co., New York, after 60 years with that organization.

E. P. Joyce, of Spartanburg, S. C., has become secretary and assistant treasurer of Startex Mills, Tucapau, S. C., succeeding **C. G. White,** resigned.

Yates Smith, secretary and treasurer of the Gainesville (Ga.) Cotton Mill, has resigned.

Joe F. Chalmers, lately superintendent, has been promoted to general superintendent of the Matthews Mill at Greenwood, S. C., and has been succeeded as superintendent by J. Manning Bolt. Mr. Bolt was recently with Chadwick-Hoskins Mills, Charlotte, N. C.

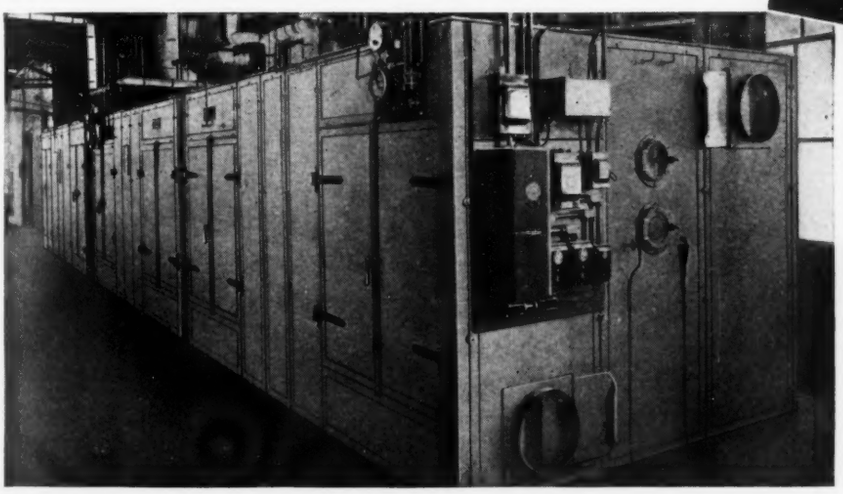
Faber Birren, industrial colorist and authority on color, has been appointed color consultant for Marshall Field & Co., Inc., Manufacturing Division. He will do the color planning work for rugs, blankets, towels, bedspreads and other products, and will design industrially effective color treatments for mill interiors, keyed to increase production

FERDINAND THUN, president, Hugo Hemmerich, general superintendent and Henry Janssen, vice-president, of the Berkshire Knitting Mills, presenting a gold watch to Wm. T. Arnold, veteran of 31 years service with Berkshire. The occasion was a dinner tendered by the management to 95 employes who have been with the company for 25 years or longer. These 76 men and 19 women received commemorative gold watches in recognition of their service. Mr. Hemmerich was toastmaster and Dr. J. E. Livingood, secretary, made the address of welcome. Other speakers included three veteran employees, Herbert Potteiger, J. J. Bennethum and Grace Watts, who told of the days in the early history of the mills. Twenty-five years ago Berkshire had 400 employees. Nearly one-fourth of these are still employees of the mill today.

"WE SCRAPPED OUR OLD DRYERS

and purchased 18 New Proctor Package Yarn Dryers which not only reduce drying time to a minimum but also put the yarn in the best possible condition."

Mr. W. A. Traver, Vice President and General Manager of all Franklin Process Company plants.



Battery of New Proctor Package Yarn Dryers installed at the Philadelphia, Pa. plant of Franklin Process Company.

W. A. Traver, Vice President and General Manager of all the Franklin Process Company plants says . . .

"As you know, the policy of our company has been constantly to improve the quality of our work; and, at the same time, to give our customers quick service.

"This has necessitated, in addition to a great deal of other equipment, the purchase of dryers that not only reduced the drying time to a minimum but also put the yarn in the best possible condition, which we have found in your PROCTOR Package Yarn Dryers.

"The air reversing mechanism and close control of temperature and humidity secured in your machines has justified us in scrapping a great many older dryers and replacing them with your new machine.

"In fact, the best testimonial we can give you is that, from 1936 to the present time, we have either installed or on order a total of eighteen of your large-size dryers divided up among our various plants; and we are very glad to recommend these machines most highly for the drying of package yarn."

PROCTOR *Package Yarn* DRYERS

PROCTOR & SCHWARTZ, INC. PHILADELPHIA

**Send for Bulletin 40*

Uniformity of PRODUCT keeps 'em in line

When the *last* thousand pounds of the order duplicates the *first* thousand pounds—then your profit lines up exactly even with your estimate . . . *Uniformity* does it every time! And uniformity is doubly assured when your dyeing and finishing operations are made fully controllable by a

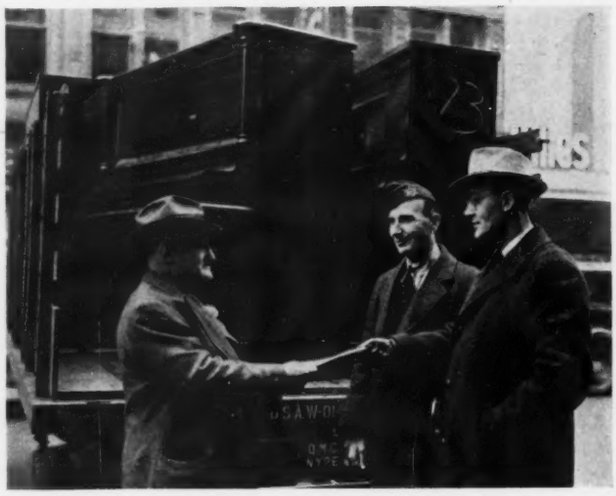
HUNGERFORD & TERRY WATER PURIFICATION SYSTEM

These dependable systems produce clear, 100% soft, iron-free water at a cost of only a few cents per thousand gallons . . . Water that assures uniform finish, better hand, brighter colors, closer dye matching, whiter whites and holds rejects down to the minimum.

To determine whether or not your water supply is causing you trouble and expense we will make an impartial survey without fee or obligation. If a purification plant is indicated our estimate of your requirements will be included in the survey. No "sales pressure" is included in H. & T. engineering service. Write us today.

HUNGERFORD & TERRY, INC.

WATER PURIFICATION PLANTS DESIGNED
INSTALLED *and* GUARANTEED
CLAYTON, NEW JERSEY



SAMUEL C. LAMPORT, of Lamport Manufacturing Supply Co., New York is shown at the left above giving title to 213 pianos donated by the Jewish War Veterans to the Army. The Army in this case is represented by Capt. James J. Robertson of Quartermaster Corps. Standing on his right is J. George Friedman, past national commander of Jewish War Veterans. The pianos will later be distributed to various army camps throughout the country. Mr. Lamport is looking for someone to write the music for a song to be called "A Dirge for Dictators," as he is going to write the lyrics himself.

and reduce occupational hazards. Mr. Birren has contributed numerous articles to TEXTILE WORLD on color subjects.

T. Fred Bell has become manager of Cutter Mfg. Co., Rock Hill, S. C. He was formerly secretary, treasurer and manager of Victoria Cotton Mills, having resigned a few months ago.

Dr. R. M. Evans, assistant to the manager of the Nylon synthesis unit of E. I. du Pont de Nemours & Co., Belle, W. Va., has been appointed general manager of the company's new $15,000,000 ammonia unit now under construction at Morgantown, W. Va. **Ernest R. Habicht,** cost accountant at the Belle unit, has been promoted to succeed Dr. Evans.

Booth W. Gillespie has become general manager of Spindale (N. C.) Mills.

William A. Dawson has been appointed sales manager of the Springdale Finishing Co., and will direct the sales work of that firm from the recently enlarged New York office.

William O. Earl, of the William Earl Co., Detroit, has been appointed selling agent for the Glenside Mills Corp., with offices in the Chrysler Building, New York. **Paul J. Torchiana** is president of the company.

Walter H. Schrader, sales manager of Joseph Berlinger Co., New York, has joined the gray goods department of the William Whitman Co., New York. **J. J. Bosshard,** formerly with Bloomsburg Silk Mills has also joined the Whitman organization as stylist.

James W. Blewer, of the Royalknit Glove Corp., Johnstown, N. Y., has been elected president of the Knit Wool Glove and Mitten Division of the National Association of Leather Glove Manufacturers. He succeeds **L. F. Swears.**

Ned Joyce has been elected secretary and assistant treasurer of Startex Mills, Tucapau, S. C.

Sam Diamond, Chicago representative of Melrose Hosiery Mills, High Point, N. C., was last month appointed head of a committee to prepare a constitution for a new organization of Chicago hosiery mill representatives.

Kenneth Donaldson, with A. S. Haight & Co., New York, for the last 20 years has resigned to accept appointment as eastern sales representative of Rubens & Marble, Inc., Chicago, Ill. He succeeds **S. B. Kaufman** who has represented the firm for the last 18 years but is now retiring on account of his health.

Asel W. Rogers has been overseer of the card room of Gonic (N. H.) Mfg. Co. since 1934, and still holds that office. Fred LaFevre, one of the second hands, resigned recently. In this department last month the item describing "Fred LaFay" as overseer at Gonic was in error.

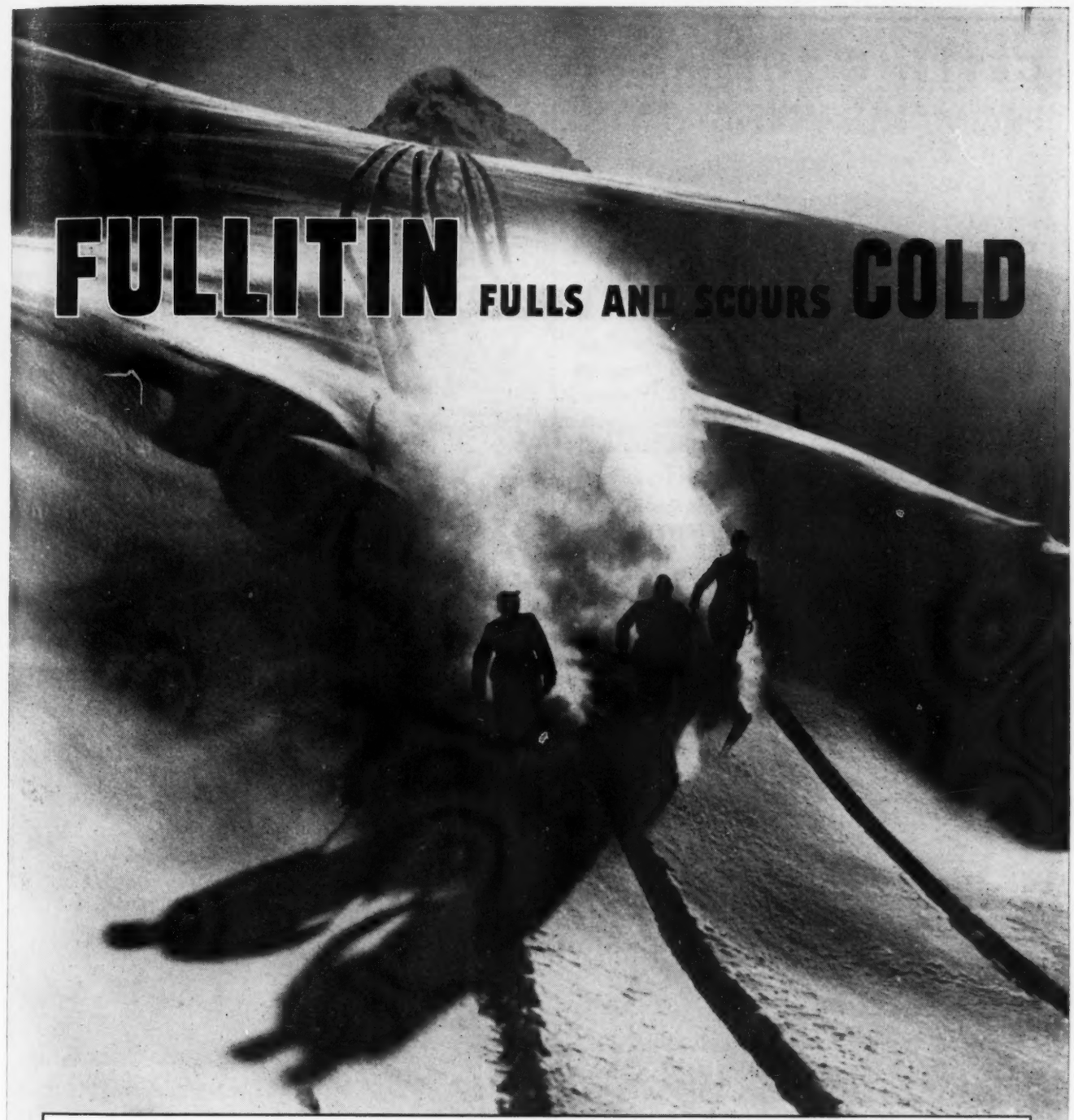


Photo by Philip Gendreau, N. Y.

It has long been known that cold soap is safest, but it has remained for FULLITIN to make it practical. FULLITIN prevents even the heaviest concentrations of cold soap from congealing and sticking to the sides and doors of the fulling mill. It also promotes quick, thorough penetration, gives a denser, firmer felt and a better handle. It may be used with or without soap or alkali as required, and warm as well as cold.

It absorbs even mineral oils and eliminates mill wrinkles, stuck places, whiplashes, chafing, washer wrinkles, streaky or cloudy dyeings and bleeding of dyed stock and yarns.

Let our service man demonstrate its efficiency in YOUR mill.

COMPANION PRODUCTS

SCOUROLAN . . . *For perfect scouring*
EBCOMULSION . . . *For perfect handle*
SOL-TAR . . . . . *To remove tar spots*

ERNST BISCHOFF COMPANY, INC.

FOUNDED 1908

IVORYTON . . . . CONNECTICUT

It's the Finish that Counts

GETTING THE MOST FROM HUMIDIFICATION

RIHCO Type B Atomizer

In its ability to create a new low cost in atomizer humidification, the new RIHCO Type B has already proved its worth in many leading mills. Maintaining any required and constant humidity condition throughout each department, the Type B obtains these results with smaller initial equipment and with far less cost for power to operate.

Let a RIHCO engineer tell you why the RIHCO Type B can do this and what it is saving in so many mills.

R. I. HUMIDIFIER & VENT. CO.

Humidifiers since 1912

99 Chauncy St., Boston, Mass.

Aldrich Machine Works
Greenwood, S. C.

V. L. Sanderson
1710 Walnut St., Philadelphia, Pa.

NEWS ABOUT MEN

Russell B. Newton, superintendent, Columbus, Ga., mill of Bibb Mfg. Co., has resigned to join Riverside & Dan River Cotton Mills, Danville, Va. He is succeeded by **John S. Turner**, transferred from Porterdale. **P. E. Findlay, Jr.,** has been made general superintendent of all Porterdale mills and superintendent of Osprey Mill. **R. E. Henderson,** superintendent of No. 1 mill, also has resigned to become superintendent of Graniteville (S. C.) Mfg. Co. Both Mr. Newton and Mr. Henderson had been with Bibb for 20 years.

Edward C. Jouret, formerly superintendent of Hardwick Mfg. Co., Cleveland, Tenn., is now superintendent of Pioneer Mills of American Woolen Co., Pittsfield, Me.

Edwin J. Hanamann has been appointed assistant treasurer of Commercial Factors Corp., New York. He joined Peierls, Buhler & Co., Inc., in 1922 which, in 1929, merged with Fred'k Vietor & Achelis, Inc., to form Commercial Factors Corp. Mr. Hanamann will continue in charge of the purchasing department and general insurance matters.

George K. Ripley, president of Troy (N. H.) Blanket Mills gave a dinner just before Christmas to honor five employes who have been with the mills for 50 years. These are: W. R. Porter, treasurer; Eliza Gauthier and Annie J. Jarvis, operators; John F. Lahiff and W. C. Brown, overseers. The mill is 75 years old.

Harold Heap, after 16 years with Berkshire Fine Spinning Associates, New York, is joining the New York sales office of Cherokee Spinning Co. and Spindale Mills.

Frank L. Wharton of Armon & Co., secretary of the Philadelphia Carpet & Upholstery Club, has been elected president.

Obituary

James H. Northrop, 84, retired textile machinery inventor, died at his home in Santa Ana, Calif., Dec. 15. In 1881, as a 25-year old machinist from Keighley, England, he landed in Boston with two shillings in his pocket. In 1897, sixteen years later, while still a comparatively young man, he retired, and, with a guaranteed life salary, moved to California. At that time he had 95 patents to his credit. In 1889 he devised an automatic shuttle-changing loom and a year later started work on his revolutionary idea of an automatic bobbin - changing loom. This loom, which made the Northrop name famous, became available to the trade in 1895. Mr. Northrop had joined the machinery firm of George Draper & Sons, in Hopedale, Mass., shortly after his arrival in this country. The present Draper Corp. is successor to that concern.

JAMES H. NORTHROP

Howard K. Regar, 78, retired Norristown, Pa. hosiery manufacturer and banker died last month at Pasadena, Calif. Mr. Regar was founder in 1880 of the firm of Rambo & Regar, and in 1917 of H. K. Regar & Son, Bridgeport, Pa. He moved to California in 1924.

Gerson Robison, 71, a pioneer in rayon distribution, died in Florida on Dec. 17. He organized G. Robison & Co. in 1908, and for a time handled the rayon production of the Viscose Co. of America. After a few years of retirement, he re-entered the rayon business in 1924 as an importer.

Lawrence T. Braman, 68, a cotton goods merchant for many years and head of Lawrence T. Braman & Co., New York, until his retirement several years ago, died last month.

Augustus E. Staley, Sr., 73, founder of the A. E. Staley Mfg. Co., Decatur, Ill., and a pioneer in the corn and soy bean processing industries died at his winter home at Miami, Fla., Dec. 26.

Edward W. Atkinson, 81, senior member of the machinery importing firm of Atkinson, Haserick & Co., Boston, Mass.,

DU PONT *Methacrol**

developed for finishing nylon hosiery

ALSO AVAILABLE FOR SILK

THE same Du Pont laboratories that gave the world nylon developed "Methacrol" NH specifically for finishing this new miracle fiber. Now, Du Pont research takes another forward step with the production of "Methacrol" SH, bringing to silk hosiery similar outstanding qualities in finishing.

If you manufacture hosiery, you will welcome the sales advantages that either "NH" or "SH" can give your product. Write or call the Du Pont office nearest you for complete information.

E. I. DU PONT DE NEMOURS & CO. (INC.)

Fine Chemicals Division, Wilmington, Delaware

SALES OFFICES: Boston, Mass.; Charlotte, N. C.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Providence, R. I.; San Francisco, Calif. In Canada: Canadian Industries, Ltd., Box 10, Montreal, Quebec, and 372 Bay St., Toronto, Ontario.

**"Methacrol" is Du Pont's trade-mark for its methacrylate resin emulsion finishing agents.*

MEESE, INC.
Madison, Ind.

Testing Tells

Physical testing with *Scott Testers conclusively answers innumerable questions that arise in purchasing, manufacturing and selling. Talking in terms of *Scott Tester results, you employ a "universal language", standard the world over.

SCOTT TESTERS

*Registered Trademark

HENRY L. SCOTT CO. Providence, R. I. U. S. A.

ALLEN HOLLOW
Hex Socket SCREWS
FOR TEXTILE MACHINERY

Heads set flush with machine surfaces; no sharp edges to catch fabrics; no slots to burr and pull threads. Strongest, handiest screws to use; hold tight under vibration. Ask for *free samples* — indicate types and sizes wanted.
ALLEN MFG. CO., Hartford, Ct.

NEWS ABOUT MEN

died Dec. 6. He was early associated with Pacific Mills and then joined Stoddard, Lovering & Co., Boston, importers of textile machinery and raw materials. He became a member of this firm in 1889 and the name was later changed to Atkinson, Haserick & Co.

Fred R. Davis, 64, advertising space buyer for the General Electric Co., Schenectady, N. Y., died Dec. 26. He supervised the expenditure of more than $1,000,000 annually for newspaper and magazine space. He was a founder of the Audit Bureau of Circulations in 1914.

Dr. Lemuel L. Self, 62, president of Nuway Spinning Co. and Carlton Yarn Mills, Cherryville, N. C., died recently.

Nathaniel B. Dial, 78, died in Laurens S. C., Dec. 11. Mr. Dial was president of Laurens Cotton Mills, Ware Shoals Mfg. Co., Reedy River Power Co., Georgia-Carolina Power Co., Sullivan Power Co., Laurens Glass Works, and the Home Trust Co. He served one term in the U. S. Senate, being elected in 1918.

S. G. Newland, 85, retired cotton manufacturer, died Dec. 15 in Randleman, N. C. Mr. Newland was an associate founder of Randleman Mfg. Co. and served as an executive with that concern for more than 50 years. He was also an executive of the Deep River Cotton Mills and one of the organizers of the Randolph Hosiery Mills.

Frederick A. Baer, 81, who retired nine years ago as a silk manufacturer after 50 years' activity in the industry, died Dec. 15 in Paterson, N. J. He was associated at various times with Helvetia Silk Mill, Bluebird Silk Mill, Paramount Throwing Co. and American Silk Co., all of Paterson, and the Carlisle Ribbon Co., Carlisle, Pa.

Ernest F. Young, aged 70, who founded the South Dunn (N. C.) Mfg Co., died recently at Wilmington, N. C.

Herbert L. Barry, 44, president and treasurer of Greenville Wool & Waste Co., Pawtucket, R. I., died in Smithfield, R. I., Nov. 25.

Paul Nino, 40, former owner of Nino Silk Throwing Co., Swoyerville, Pa., died Dec. 17 at his home in Forty Fort, Pa.

Dr. Richard Delaney, 81, for 40 years president of Atlantic Rope & Line Co., Boston, Mass., died Dec. 1.

William Turner Whedon, 81, for 59 years a member of the firm of Winslow Bros. & Smith Co., Norwood, Mass., died at his home in that place on Dec. 15.

Theodore Estling Kitching, 82, dean of the carpet wool trade, died Jan. 4 at his New York home. He was the third generation of his family in this business; his son and grandson succeed him.

S. Herbert Golden, 65, founder of S. H. Golden Co., New York, died Jan. 1.

David Valentine, 80, retired member of the former silk firm of Valentine & Bentley, New York, died Jan. 6.

David E. Williams, 54, for the last five years ass't vice-president of Textile Banking Co., New York, died Dec. 28.

Frank Mitchell, 68, who had been in charge of the Chicago office of Deering, Milliken & Co., for 12 years prior to his resignation last September, died in Canada last month.

C. Henry Othersen, 55, of Otersen & Finegan, New York, knit goods sales agents, died Dec. 25. He was previously with A. A. Smith & Son for many years.

Joseph A. Harron, 61, founder and president of the former Blue Heron Hosiery Co., Philadelphia, died recently. He had been in the hosiery business for 31 years and had retired last March.

Bernard F. McCarty, 88, for over 50 years a cotton mill official in New Bedford, Mass., died recently. He came to America from Ireland in 1871, going to work as a loom boy in Wamsutta Mills. He became overseer in 1883. In 1904 he joined Manomet Mill, became superintendent; retired in 1925.

Charles Morton Allen, 62, for many years general manager of the British American Dyeing Co., Verdun, Quebec, Canada, died last month.

Charles A. Searls, for many years in the wool fabric business, who had recently established a new department with Rusch & Co., factors, New York, died in Boston, Mass. last month.

Howard G. Beaman, 60, for 30 years styler with American Woolen Co., New York, died Dec. 9 at Plymouth, Mass.

J. William Landenberger, founder and president of J. W. Landenberger & Co. (Randolph Mills), Philadelphia, died Dec. 22. He founded the company in 1895 and spent his entire career in the hosiery business.

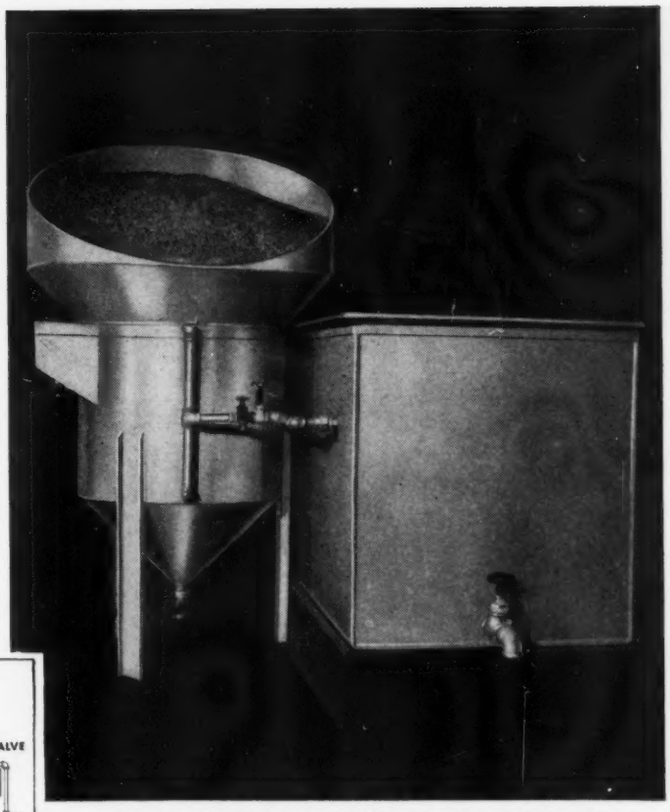
Vernice F. Ludwig, 64, director of sales for the Mishawaka (Ind.) Rubber & Woolen Mfg. Co., died last month. He had been with the firm for 41 years.

Thomas D. Jackson, vice-president of the Textile Manufacturers Co., Toronto, Canada, died last month.

A NEW SLANT on level dyeing

●

How you can end spotting, streaking, white edges—and make 4 important savings with Lixate Brine

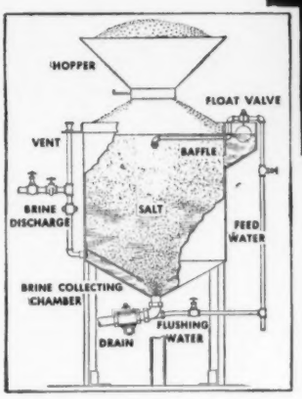


Housatonic Dyeing & Printing Co., Inc., Derby, Conn.

This is a typical textile mill installation of The Lixate Process. Lixate Brine is not only used for discharge and vat dyeing in textile mills, but also for regenerating zeolite water softeners. Wherever a saline dye exhausting agent is used—for woolens, cottons, rayon, or unions—Lixate Brine can improve quality and lower costs.

★ ★ ★

MANY great discoveries are based on simple facts—obvious to everyone as soon as they are announced. Yet such obvious truths as the law of gravitation and the power released by the expansion of water into steam had to be discovered by observation. The same is true with "level dyeing." Secret formulas, costly chemicals, long experience—all are surpassed by new knowledge of the importance of immediate dispersion of the dye-exhausting agent.



If you throw the dry crystals of a saline exhausting agent into a vat filled with dyes and fabrics, the exhausting agent must be dissolved by the dye solution. Tiny pin-point, and even much larger areas of extreme concentration are created where grains or crystals are dissolving—and these drive excessive dyes into the fibers. When you use Lixate Brine as a dye-exhausting agent, the salt is already in solution. It is at once dispersed throughout the vat—eliminating spotting, streaking and the many inequalities of dyeing that is *not* level.

New users of Lixate Brine are always surprised at the improvement in the *quality* of wet processing with this modern dye-exhausting agent. They are usually just as surprised at the tremendous economies. In dyeing, Lixate Brine makes 4 major savings:

1. Lower cost for handling salt or salines.
2. No labor cost for mixing salt with water or dyebath.
3. Lower cost for distributing the exhausting agent through the mill.
4. Saving in the *quantity* of salt required—ranging from 10% to 20%. (*NOTE.* Where salines costing more than Sterling Rock Salt are used, its lower cost per ton makes a *fifth* economy.)

This cross-section diagram illustrates the automatic operation of The Lixate Process. Sterling Rock Salt, placed in the hopper, flows down by gravity. Water under automatic control enters through a spray nozzle at the top, dissolves the salt without agitation and becomes fully saturated brine. Brine is self-filtered and rises, crystal clear, through a collecting chamber to a discharge pipe, and flows to a storage tank. Saturated brine, or brine diluted to any desired degree, can be piped to any part of the mill.

● SALT AS YOU REQUIRE IT!

Any chemist, any practical textile man, knows that a microscopic difference in size, a minute variance in sodium chloride content of salt, may be tremendously important for certain industrial operations. That is why International produces all types, all grades of salt—both evaporated and Rock Salt. That is why Internationl maintains its advisory service, to share its long experience and the studies of its Research Department with all salt users. You are invited to submit, with no cost or obligation, any problem concerning the use of salt or salt brine.

● GET THIS BOOK!

Brine tables, diagrams, formulas, pictures—all are included in this valuable book, which is yours for the asking. Write for "The Lixate Book."

The LIXATE *Process*
REG. U. S. PAT. OFF.
for making brine

INTERNATIONAL SALT COMPANY, Inc., SCRANTON, PA.

SALES OFFICES: *New York, N. Y. • Buffalo, N. Y. • Philadelphia, Pa. • Boston, Mass. • Baltimore, Md. • Pittsburgh, Pa. • Newark, N. J. • Richmond, Va. New Orleans, La. • Cincinnati, O. • St. Louis, Mo.*

REFINERIES: *Watkins Glen, N. Y. • Ludlowville, N. Y. • Avery Island, La.* • MINES: *Retsof, N. Y. • Detroit, Mich. • Avery Island, La.*

RYERSON CERTIFIED STEELS

Large Stocks... Uniform High Quality... Immediate Shipment... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

STANDARD

G. W. LEWIN Straight WEAVERS' COMBS

Patent No. 172864

Highly polished brass backs. Hardened steel pins with hardened steel pick-out point of special steel which will not bend.

Style B80—Curved 80 fine pins
Style B60—Curved 60 coarse pins
Style B40—Curved 40 coarse pins
Style C80—Straight 80 fine pins
Style C60—Straight 60 coarse pins

Price $2.00 Dozen—$20.00 Gross.

Manufactured by

STANDARD MILL SUPPLY COMPANY

1076 MAIN ST. PAWTUCKET, R. I.

Southern Standard Mill Supply Co., Charlotte, N. C.

Have you tried—

Booth Quality Card Clothing

Benjamin Booth Co.

Allegheny Ave. & Janney St. PHILADELPHIA

TEXTILE MILL NEWS

Cotton Mill News

Alabama Mills report net loss of $184,898 for fiscal year ended June 30, 1940 compared with net loss of $234,935 in preceding year.

Anniston (Ala.) **Mfg. Co.** is installing additional equipment, including four new Saco-Lowell spinning frames, long-draft type; and eight new carding machines of same manufacture, with four new drawing frames and one slubber in carding department. A new Curtis & Marble shearing machine has been placed in service. Company recently completed an addition, to be used for expansion in weaving department.

Banning (Ga.) **Mills, Inc.,** has been leased by New York interests and put back into operation. At a receivership sale last summer the mill was purchased for $40,250 by C. L. Upchurch & Sons, Athens, Ga., dismantled and the machinery sold. This company has installed machinery in the plant for the new operators.

Brookford (N. C.) **Mills** have let contract to Cline Lumber Co., for construction of a brick warehouse, two stories, 40x80 ft.

Cornelius (N. C.) **Cotton Mills,** idle for some months, plans resumption of operations.

Cramerton (N. C.) **Mills** will soon complete installation of 100 new Draper looms, replacing 100 box looms.

Eader Textile Corp., Cascade, Md., is considering rebuilding of mill recently destroyed by fire, with loss estimated at $75,000, including equipment.

Egan Cotton Mills, College Park, Ga., has completed addition in which new machinery will be installed. The program to cost more than $30,000.

Elyria (Ohio) **Laces, Inc.,** recently chartered for $100,000, has purchased the local mill of American Lace Mfg. Co., on Taylor St., and will operate in future.

Excelsior Mills, Union, S. C., which was to have been sold at auction on Dec. 18, was withheld from sale on that date by W. S. Nicholson, receiver.

Gibson Mill, No. 6 unit of Cannon Mills Co., Kannapolis, N. C., has completed an addition in which 24 new looms will be installed.

Glen Riddle (Pa.) **Mills** are in the hands of Alex. B. Adelman and W. D. Teefy, receivers.

Glenn Mfg. Co., Lincolnton, N. C., has installed new machinery which has increased the capacity of the dyeing department 50%.

Groves Thread Co., Gastonia, N. C., has installed two new high-speed Foster winders in its No. 2 unit. Four older models were replaced.

Maplewood Specialty Mills, Fall River, Mass., are installing machinery in the former Charlton Mills, and will resume operations as soon as possible following a recent fire.

Maysville (Ky.) **Cotton Mills** have installed Grinnell automatic sprinklers.

McComb (Miss.) **Cotton Mills** will be reopened under a plan devised by Sam C. Lamport, of New York, by which employees in the mills will put 10% of their weekly wages toward purchase of stock in the corporation.

Meridian (Miss.) **Cottons, Inc.,** formerly J. W. Sanders Cotton Mill, opened with a force of 450. C. D. Kent is manager; R. D. Sanders, Jackson, Miss., is president and treasurer.

Monarch Mills, Union, S. C., reports net profit for fiscal year ended Sept. 30, 1940 of $199,417 compared with net profit of $44,520 for previous year.

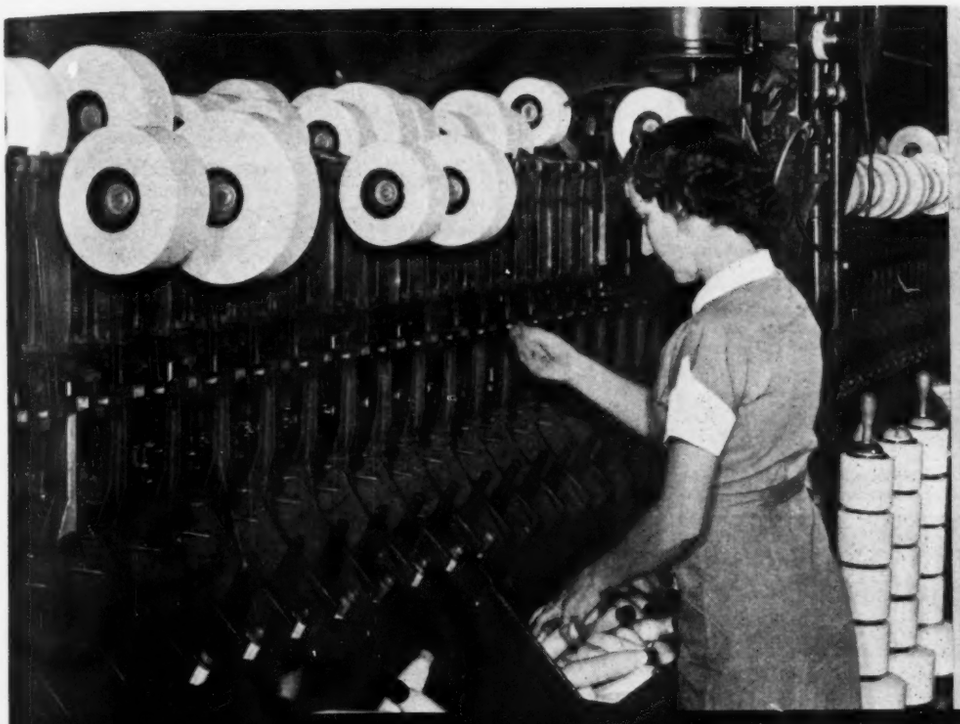
Naomi Mill, Randleman, N. C., closed since 1936, will be reopened by Deep River Mfg. Co., Fayetteville, N. C. The latter purchased the plant in 1934 from Hunter Mfg. & Commission Co.

Palmetto (Ga.) **Cotton Mills, Inc.,** plans one-story addition, 55x100 ft., for expansion in cloth storage department. Cost estimated close to $35,000. Robert & Co., Atlanta, Ga., are architects and engineers.

Prattville Cotton Mills, Montgomery, Ala., is operating under new ownership and management, having been acquired by Alexander Safie and two sons, of San Salvador, Central America.

J. W. Sanders Cotton Mill, McComb, Miss., is installing long-draft roving frames, the new equipment having been furnished by the H. & B. American Machine Co.

Slater & Sons, Inc., Marietta, S. C., has been systematically selling its 150 village



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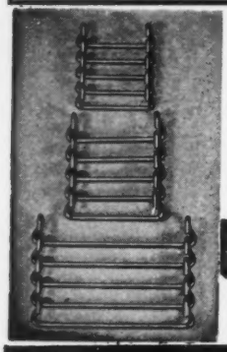

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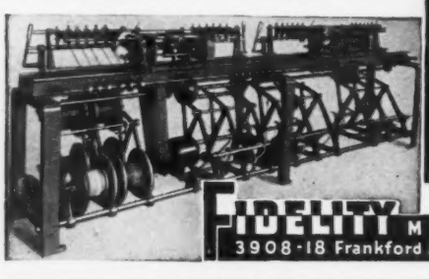

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houses to employees since last summer, about half having been disposed of to date on a monthly payment basis. Alester G. Furman, Jr., Greenville, S. C., is handling the transaction for the company.

Springs Cotton Mills, Lancaster, S. C., have begun two-story addition, 62x75 ft., to warehouse, and will complete early in 1941. A portion of second floor will be used for office service. Cost estimated over $50,000. J. E. Sirrine & Co., Greenville, S. C., are engineers.

Stevens Mfg. Co., Burlington, N. C., plans construction of a one-story brick structure, with a three-car garage beneath the main floor, adjacent to the present mill buildings.

Textile Weavers, Ltd., Grand'Mere, Que., have plans for one-story addition, to cost about $45,000. Proposed to carry out work early in 1941.

Waxhaw (N. C.) **Cotton Mills Co.,** formerly the Rodman-Heath Cotton Mills, has been organized with a capital of $100,000, with $300 subscribed by L. D. Gribble, Mrs. Minnie Sharp Gribble, both of Dallas, N. C., and W. R. Armstrong, of Gastonia, N. C.

Whitin Bros., Inc., Linwood, Mass., will sell their machinery including 23,000 spindles and 550 looms through Crescent Corp., Fall River, Mass.

Wool Mill News

Adelphia Worsted Mills, Philadelphia, have had involuntary petition in bankruptcy filed against them by Stephen Spinning Co.

Chatham Mfg. Co., Elkin, N. C., plans construction of a new storage building with 200,000 sq. ft. of space.

Cocheco Woolen Mfg. Co., East Rochester, N. H., suffered fire damage estimated at $20,000 on Dec. 9. The blaze was confined to a mule, but several sprinkler heads were set off, damaging machinery and cloth in the carding and finishing departments.

Collins & Aikman Corp. reports net profit for 9 months ended Nov. 30, 1940 of $2,278,208 compared with $1,416,440 for similar period in 1939.

C. E. Goodwin's Sons, Inc., Cedar Bluff, Va., with maximum capital of $50,000, has been chartered to manufacture and deal in blankets and other woolen materials. John C. Goodwin, of Cedar Bluff, is president.

Greig Mills, Inc., East Killingly, Conn., has begun operations with 30 looms on woolen cloth. Francis G. Way is president; N. Lorne Greig is treasurer, and Catherine Park Greig, secretary.

Lacon (Ill.) **Woolen Mills** have purchased the Brickner Woolen Mills, Sheboygan Falls, Wis., with its machinery including 18 C.&K. 90 in. looms, and will operate the latter as a branch plant. Present structure was erected in 1879.

Monadnock Carpet Co., Milford, N. H., organized recently, has begun operations on axminster carpets, and kindred floor coverings; approximately 20 looms are in service. Arthur E. Dunn is head.

Riverside Mill, Lebanon, N. H., vacant since 1929, will be reopened within a few weeks, according to Joseph B. Perley, chairman of the Board of Selectmen. Lebanon Woolen Mills, Inc., owns it as well as Mascoma Mill which was started up Dec. 9 after two year shut down. Both plants were at one time units of the American Woolen Co.

Spin-Well Woolen Mills Co., Ltd., Sifton, Man., has plans for one-story addition, reported to cost close to $50,000, with equipment.

Clifford Steacie Co., Uxbridge, Mass., was offered for sale Dec. 17. Property included garnetting plant on Hecla St.

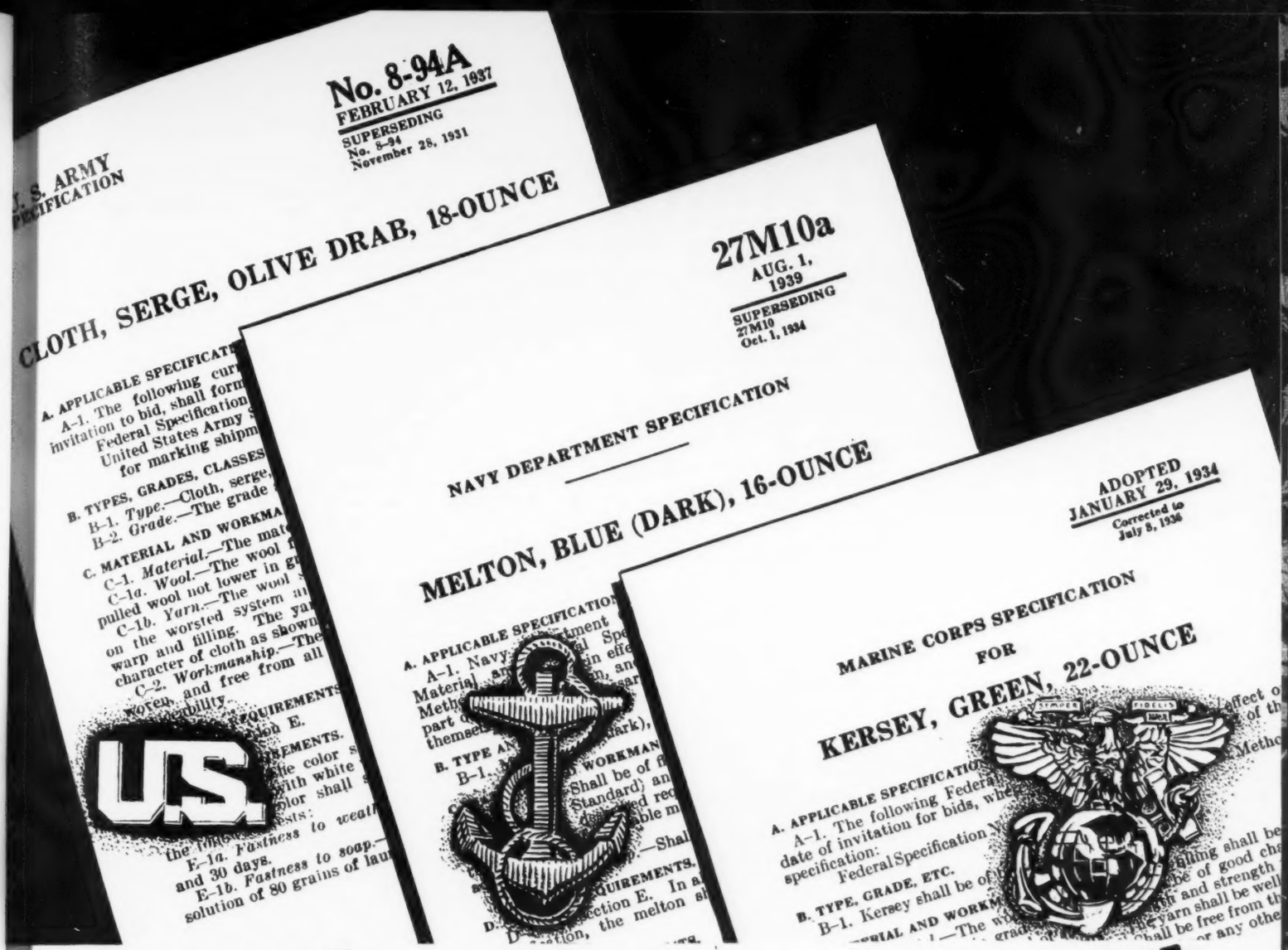
Stoughton (Mass.) **Garnetting Corp.** has been organized with capital of 5000 shares, and plans early operation of a local mill. Albert E. Partlow is president.

Textile Fiber Co., Waltham, Mass., has taken possession of Great Falls Woolen Mills, Somersworth, N. H., and started operations. Frank Coyne is president.

Waterford (Conn.) **Woolen Co.** has taken over the former Jordan Mills and is producing Shetlands for the men's wear trade. Gerard Haagins, formerly an importer, is head of the organization and Arthur Le Croix is superintendent.

Rayon & Silk Mill News

Burlington Mills, Greensboro, N. C., has arranged financing through sale of $3,000,000 of preferred stock for expansion and improvements in mills and equipment, with most of work to be carried out during 1941. About $400,000 will be used for modernization, improvements and additions to different existing mill buildings; about $875,000 for purchase of new looms; $560,000 for purchase of throwing spin-



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BRANCHES AND DISTRIBUTORS THROUGHOUT THE WORLD

dles and accessories, and knitting machines; about $75,000 for proposed purchase of a hosiery finishing mill; and $75,000 for erection of dwellings for mill operatives. Company profit for first nine months of 1940 is $1,716,037.

Belco Fabric Co., Wind Gap, Pa., which recently acquired the local mill of Marion Silk Mills, on West St., has completed modernization and improvements, with installation of machinery for production of silk and rayon specialties.

Celanese Corp of America, Cumberland, Md., is expanding its warp-knitting department at a cost of $250,000. A building, 2-stories, 125x130 ft., will house the addition.

Chaminade Velours, Inc., Seymour, Conn., relinquished its lease Dec. 31 on local mill property, occupied for some time. Plant has been closed down permanently at that location. It has been giving employment to about 150 workers. No future plans have been determined.

Dover (N. H.) **Industries, Inc.,** has been formed by a local group to take over the Pacific Mills property, after operations cease this month.

Benjamin Kahn Ribbon Mills, Attala, Ala., is rebuilding portion of its plant destroyed by fire several months ago.

Roanoke (Va.) **Weaving Co.** has awarded general contract to B. F. Parrott & Co., Roanoke, for one-story addition for warehouse service. Cost estimated close to $25,000 Firm will install about 175 additional looms in an addition under construction at a cost of $54,000.

St. George Textile Corp., 119 West 40th St., New York, N. Y., has work under way on modernization and improvements in former mill of Marion Silk Mills, Northampton, Pa., recently purchased, including installation of machinery for production of sport fabrics, and will begin operations at mill early in February.

Skenandoa Rayon Corp., Utica, N. Y., has approved plans for expansion, including new machinery and equipment, to increase capacity by about 1,000,000 lbs., or 15% per annum. Work will proceed early in 1941.

Stehli & Co., Inc., Lancaster, Pa., will discontinue operations permanently at branch mill at Waynesboro, Va., on or about March 31, 1941. Equipment and machinery at the Waynesboro mill will be removed to Lancaster plant, where production will be increased and largely concentrated in the future. The plant at Waynesboro was established in 1925.

Suncook Mills report net profit for fiscal year ended Sept. 28, 1940 of $216,667 compared with net profit of $174,429 in previous year.

Susquehanna Silk Mills, Sunbury, Pa., will be taken over by Susquehanna Mills, Inc., according to present plans. No change in personnel or policy is involved.

Worcester (Mass.) **Woven Label Co.** has installed two new woven-label looms which were constructed by the company's mechanics. Each will turn out 5,000 labels in an eight-hour day. The company, directed by Morris I. Betten, specializes in labels for the neckwear trade.

Knitting Mill News

Abbeville (Ala.) **Hosiery Mill** is planning to rebuild the mill which burned recently.

Adams-Millis Corp., High Point, N. C., is doubling the capacity of its Tryon, N. C., full-fashioned hosiery mill. This plant was described in detail in TEXTILE WORLD following its completion some time ago.

Alma Knitting Mills, Inc., Gloversville, N. Y., recently organized, has leased three floors in industrial building at 11 East Pine St., and will equip at once for production of knit wool gloves and mittens. James L. Cahn is president, and Gustav H. Berger, vice-president, treasurer and manager.

Asheboro (N. C.) **Hosiery Mills** have installed 12 new full-fashioned knitting machines.

Appalachian Mills, Knoxville, Tenn., have replaced all dyehouse and bleaching equipment with stainless steel machines made by Rodney-Hunt Machine Co.

Brookshire Knitting Mills, Inc., Manchester, N. H., have leased space in a former Amoskeag mill now owned by Stephen Spinning Co. Product is worsted sweaters. Concern was formerly located in New York, N. Y.

Byrum Hosiery Mill, Hickory, N. C., has been purchased from the A. V. Victorius estate by Willis McMurry and John Campbell who plan a full-fashion hosiery mill or may convert the mill into a bonded cotton warehouse. The plant had previously been leased by Adams-Millis Corp.,

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Never before, at the beginning of a year, has there been greater need for clear vision than now at the start of 1941. With the world overseas aflame, and with our own country devoting more and more of its productive enterprise to the national defense program, it is not possible to look more than a year ahead, but it *is* possible—and necessary—to gaze that far into the future.

Consequently, TEXTILE WORLD will devote the Annual Review and Forecast Section of its February number to the theme "WHAT ABOUT 1941?"

In this section, the editors will raise questions of interest to mill men in every branch and division of the industry, such as:

What does the defense program mean to the textile industry?

What would the outbreak of hostilities mean to the textile industry?

What is the outlook for technical advances during the coming year?

What direction and form will textile research take?

What can the industry do along the line of employer-employee relations in light of the changing scene?

What effects will the consumer labeling trend have on the advertising and merchandising programs of individual mills?

What will be the effects of the shift of the fashion capitol from France to United States?

Answers to these questions, as well as to the question: "What happened in 1940?—from the angles of mill activity . . . fiber consumption . . . machinery sales . . . prices . . . technical advances . . . etc." will be included in this outstanding issue.

Plus, of course, the regular monthly features of TEXTILE WORLD — technical and economic articles; Textile Equipment News; Overseers' Corner; Loomfixers' Manual; Fixing Hosiery Machines; News of the Month; News about Men; Textile Mill News; etc., etc.

And plus scores of pages of advertisements of leading suppliers of machinery, equipment, accessories, chemicals and services to help you meet the management, maintenance and production problems of 1941.

Textile World

330 West 42nd Street **New York, N. Y.**

and operated as Karolen Hosiery Co. Adams-Millis recently suspended operations there and moved the machinery elsewhere.

Collinsville (Ala.) **Hosiery Mill,** newly organized, is installing machines brought from Philadelphia, in the Killian building which is under lease. Arthur Deal is manager.

Davis Mills, Inc., Mount Airy, N. C., newly organized, will install 25 machines for men's woolen hosiery.

J. Z. Erwin Hosiery Mills, Inc., Graham, N. C., began operations this month in quarters formerly leased by Thompson Hosiery Mills. Plant will produce full-fashioned hosiery.

Fairy Silk Mills, Inc., Shillington, Pa., will soon begin erection of two-story addition, to cost about $40,000, with equipment.

Fisher & Lang Knitting Mills and **College Knitting Mills,** Buffalo, N. Y.—Fire Dec. 6 destroyed a portion of the 6-story and basement building at 251 Main St., Buffalo, N. Y., occupied by these mills, with a loss of more than $25,000.

G. & H. Hosiery Mill, Hickory, N. C., has just completed installation of 32 new machines.

Gotham Silk Hosiery Co., Inc., New York, N. Y., will remove its branch mill at Dover, N. J., to main plant at Philadelphia, Pa., where production will be concentrated in future. It is proposed to close the Dover plant permanently and city officials at that place are negotiating with company in effort to maintain the mill there. Outmoded machines will be destroyed.

Jennings Hosiery Mill, Conover, N. C., is building an addition, 20x55 ft., for storage space.

Maxwell Kohl of Providence, Ky., is reported to have entered into a contract with the Citizens' Industrial League of Waterloo, Iowa, to take over a school building, and set up and operate a hosiery mill.

May, McEwen, Kaiser Co., Inc., Burlington, N. C., has been organized to take over and consolidate the May Hosiery Mills, Inc., McEwen Knitting Co., Inc., and Grabur Silk Mills, Inc., all of Burlington; Dothan (Ala.) Silk Hosiery Co.; and Vance Knitting Co., Kernersville, N. C. W. H. May, president of the May company, will be chairman of the board of the consolidated organization.

Myrtle Knitting Mills, Hartford, Conn., sold its yarn plant to Hartford Spinning, Inc., which has taken over operations without a change.

Newton, N. C. Work has started on remodelling the plant of the old Newton Roller Mills for use as a hosiery mill, which will be managed by John Ciller, Jr.

Rollins Hosiery Mills, Des Moines, Iowa, has had 30,000 shares of its stock purchased by a local business group from a Chicago interest. The change in control stabilizes the existence of the mills on their present site.

Sports Wear Hosiery Mill, Etowah, Tenn., will be augmented by 150 knitting machines to be shipped from New Cumberland, Pa. The Etowah concern will expand next spring to include production of men's and boy's slacks.

Thompson Hosiery Mills have been moved from Graham, N. C., to Burlington, N. C., and housed in larger quarters.

Walton Knitting Mills, Hickory, N. C., are constructing an addition, 36x40 ft., to provide space for installing additional knitting machines.

Wyatt Knitting Mills, Sanford, N. C., newly organized, are installing hosiery machinery and equipment representing $100,000.

Processing Plant News

Adams Textile Print Works, Norwich, Conn., which began operations about a month ago, does hand-printing on draperies, upholstery and other heavy materials. Production is 1200 to 1800 yards weekly, all in 50-inch width. Expansion is considered likely.

Burlington (N. C.) **Dyeing & Finishing Co.** has constructed a one-story addition.

Kent Finishing Co., Quidnick, R. I., has been purchased by Newport Finishing Co., Fall River, Mass., which plans to process auto body linings and spun-rayon fabrics there, operating it as a branch plant. Samuel Le Savoy is president.

Lowell (Mass.) **Bleachery** reports net profit for fiscal year ended Sept. 30, 1940 of $63,592 compared with net profit of $91,866 for previous year. Lester Watson, president, reports that firm has acquired additional land adjoining its plant in St. Louis, and notes that machinery replacement is scheduled for the near future.

Trion (Ga.) **Co.** is completing a modernization program, including installation of control and recording instruments as well as necessary building alterations.